



**Winners and Losers of  
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Welfare Implications of  
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# Winners and Losers of Early Elections: On the Welfare Implications of Political Blockades and Early Elections<sup>\*†</sup>

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## Abstract

We provide a welfare analysis of early elections in a dynamic model of political competition with endogenous political blockades. Blockades arise if a party wins an election due to the support of voters with extreme policy preferences. We show that flexible election timing has the advantage that political blockades are overcome and political decisions are taken more frequently, but also the disadvantage that these decisions are of a lower quality. We argue that the disadvantage of early elections is likely to dominate, but that time-consistency problems make a constitutional ban on early elections difficult to maintain in a parliamentary democracy.

**Keywords:** early elections, political blockades

**JEL:** D72, D61, D82

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# 1 Introduction

Throughout a large part of the democratic world, the timing of general elections is flexible; that is, the government has the constitutional right to call an early election. However, the use that is made of this right is typically controversial. For instance, Margaret Thatcher was accused of “cutting and running” when she called an election in 1983, shortly before the inflation rate went up, and thereby capitalized on high polls in the nick of time. Generally, a snap election is met with criticism whenever the feeling prevails that the reasons behind it are purely tactical.

Faced with this critique, politicians try to justify their calling of early elections. One possible route is to argue that unexpected political developments imply that the government needs a timely new mandate from the electorate. Alternatively, early elections are often argued to be a means of ending a political crisis. Both arguments were used in Germany in 2005, when chancellor Gerhard Schröder called an early election. He argued that “*without a new mandate my political programme cannot be carried forward*” (The Independent, 2 July 2005). The German president, whose consent was needed for an early election to take place, emphasized the country’s exigent need of a strong government capable of enforcing needful though controversial reforms. Similarly, Japan’s prime minister in 2005, Jun’ichiro Koizumi, justified calling an early election with the purpose of pursuing a controversial reform (the privatization of the national post) against the opposition in the parliament.

These examples illustrate that there are acceptable reasons for an early election, such as the need for a new mandate or the need to overcome a political crisis, and illegitimate or purely tactical reasons, such as the incumbent government’s chance of winning an early election. The question that is naturally implied by this distinction is: *Are voters who are facing an upcoming snap election able to discern whether the motives behind it are legitimate or not?*

To see the bearing of this question, suppose for the moment that the answer was Yes. Then, voters would be in the position to punish politicians with illegitimate motives for an early election. They would simply refrain from reelecting them. Thus, any wise government would, in turn, refrain from initiating a snap election for the wrong reason; and the problem, if there was any, would be solved by self-regulation of the democratic system.

The situation is different if voters are not able to discern the motives behind an upcoming snap election. An agency problem arises because politicians remain undetected if they appeal to legitimate reasons in order to justify an illegitimate early election. In this case, constitutional law must either allow early elections in general or ban them in general. This raises the question about the criteria according to which such a constitutional decision has to be made. *How should the possibility of both legitimate and illegitimate early elections affect the assessment of early elections at the constitutional level?*

To address these questions, this paper develops a model in which both legitimate and illegitimate reasons for early elections are clearly defined, and in which a welfare analysis of different constitutional rules can be carried out. Our focus lies on political blockades, i.e., on situations where a government lacks parliamentary support for the policy it seeks to implement. In this context, a legitimate early election would be one where the government “really” has a political project whose implementation is impeded, as opposed to a case where the government only behaves as if

it had such a project.

The questions we seek to address in this paper demand various innovations in the modelling of political competition. Existing models are not easily adapted so as to provide a “satisfactory” theory of what political outcomes are with and without early elections. The main difficulties are the following:

First, to analyze early elections as a means of overcoming political blockades, a model is needed in which political blockades can emerge within the legislative term. Neither models of party competition in the tradition of Downs (1957), nor citizen-candidate models as developed by Osborne and Slivinski (1996) and Besley and Coate (1997) have this property. In these models, political outcomes are fixed, once the ruling party or the ruling politician has been determined.

Second, the welfare analysis of early elections requires a completely microfounded model so that political outcomes can be traced back to the behavior and the preferences of voters. While we can use some ideas from the important literature on the strategic termination of governments, we also need to extend this work because it typically lacks such a microfoundation. Instead, the voters’ response to political events is taken to be an exogenous stochastic process.<sup>1</sup>

Finally, an assessment of constitutional rules should take into account that a political constitution regulates a repeated interaction of politicians and citizens. An evaluation of whether or not it is desirable to have flexible election timing should therefore be based on a dynamic model that generates a distribution of outcomes – as opposed to a static model with only one interaction.

To account for these various requirements, we adopt the following approach: We study a model with two infinitely lived parties, called  $L$  and  $R$ , who are repeatedly competing with each other. Parties nominate candidates for elections. The winning party’s candidate, henceforth called the prime minister, makes policy proposals, which need the approval of the ruling party to pass parliament. The prime minister is office-motivated, and, due to term limits, can be in office for at most two legislative periods.

We assume that a prime minister may be competent or incompetent in the sense that she is - or is not - able to identify effective policies. To illustrate this, suppose that the reduction of unemployment rates is the most urgent political problem and that there are two types of policy measures that can be used. On the one hand, Keynesian policies would stimulate macroeconomic activity. On the other hand, one could also choose a policy that improves individual incentives to seek for employment, e.g., a reduction of unemployment benefits. Suppose that, depending on current economic conditions, only one of these policy measures can effectively reduce unemployment. We say that a prime minister is competent if she understands what the effective policy measure is, and is incompetent otherwise.

While in her first term, a competent prime minister seeks to prove her competence to voters, so as to make sure that she is renominated by her party, and reelected by the voters. However, there

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<sup>1</sup>For instance, Keppo et al. (2007) use such an approach to study optimal election timing by an incumbent government. For an earlier contribution, see also Balke (1990), Lupia and Strom (1995) and Diermeier and Merlo (2000). Some of the literature on political business cycles has also considered flexible election terms, see Chapell and Peel (1979), Lächler (1982), and Kayser (2005). Again, voters are not fully modelled in these papers.

may be a blockade so that the policy that would have to be chosen for that purpose is not accepted by the ruling party. For instance, blockades arise in our model when (i) the competent policy is a leftist policy, (ii) the rightist party is ruling, and (iii) the prime minister's position is weak.<sup>2</sup> An empirical example would be a socialist government that has to cut unemployment benefits to reduce unemployment effectively, but does not find sufficient support for this policy among the members of the socialist party.

If early elections are not an option, then it is easy to see that a prime minister who is competent but blocked is empirically indistinguishable from a prime minister who is incompetent. In both cases, voters just observe that unemployment remained high and therefore have less confidence in the prime minister's competence. This implies that the incumbent party prefers to nominate a newcomer prior to the next election. Consequently, only a competent prime minister who does not face a blockade can survive in office for two consecutive terms.

If, by contrast, early elections are possible, then a competent prime minister who is blocked may have an incentive to use them in order to avoid being replaced at the date of the next regular election. Whether this incentive exists depends on the voters' beliefs, i.e., on whether voters believe the prime minister to be likely enough to reduce unemployment, once her majority in parliament will have become larger. Put differently, the prime minister can use an early election to gain additional time in office if and only if voters are sufficiently confident that she is competent.

Given such beliefs, however, early elections are attractive for *any* prime minister, competent or not, who is unable, for whatever reason, to reduce unemployment prior to the next regular election. Moreover, early elections are more often attractive for an incompetent prime minister than for a competent one. This is because a competent prime minister, as opposed to an incompetent one, can sometimes reduce unemployment, namely whenever the effective policy is supported by the ruling party. Thus, a competent prime minister need not always fear to be replaced after her first term. Thus, the rational voter believes that a prime minister who calls an early election is much more likely to be incompetent than competent. Consequently, only if the opposition's candidate makes an even worse impression will the voter reelect the prime minister at an early election.

There are two conclusions from these considerations. *First*, voters cannot discern whether the motives behind a given snap election are legitimate or not. The reason is that an incompetent prime minister can always blame the need to compromise with her party for her lack of success. *Second*, an early election confronts the voter with the choice between a prime minister who is unlikely to be competent and an alternative candidate who is even worse. This follows because the incumbent prime minister calls an early election only if she is sufficiently likely to win. But this requires that the opposition's candidate must appear even less appealing to the voters.<sup>3</sup> Thus, whereas a constitution that bans early elections leads to too frequent replacements of competent prime ministers, a constitution that allows for early elections does exactly the reverse: It leads to a too frequent reelection of incompetent prime ministers.

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<sup>2</sup>In our model, a prime minister is strong if it was a clear competence advantage relative to the challenger that made her win elections, implying that she gained all voters in a neighborhood of the median voter. By contrast, her position is weak if she just won by chance.

<sup>3</sup>A possible reason is that the opposition party is surprised enough by the timing of the election to be unable to produce a suitable candidate. See Smith (2004) for empirical evidence on this.

However, this downside of early elections is potentially counterbalanced by the fact that early elections affect the timing of political decisions. We assume that the major political initiatives of a government are undertaken shortly after an election. This assumption is meant to capture a stylized fact: In parliamentary democracies, political activity declines as the end of the legislative period approaches. This happens for a variety of reasons. Politicians start to prepare themselves for the upcoming election, the current leaders potentially suffer from a lame-duck effect, or the current government seeks to avoid controversies as the next election comes closer. Empirically, the decline of important political decisions over a legislative term has been proved by Martin (2004).

Consequently, an early election implies that the next substantial political decision is taken earlier. In our example, given that unemployment will not go down prior to the next regular election, an early election offers the chance that the effective policy against unemployment can be implemented immediately, rather than after the next regular election.

These considerations show that the answer to the question whether a political constitution should include the possibility to call an early election depends on the assessment of a *quality-quantity-tradeoff*. On the one hand, it is more likely that an early election prolongs the career of an incompetent prime minister. This gives rise to a negative quality effect. On the other hand, the expected time distance between two consecutive political decisions is lower in a system in which early elections occur frequently. Thus, over time, important political decisions are taken more frequently in such a system.

The remainder of this paper is organized as follows. In Section 2, we introduce a simple model of political blockades. Section 3 introduces early elections to this setup. In Section 4, we study an extended model with heterogeneous voters and uncertainty about the outcome of early elections, that makes it possible to provide a microfoundation for political blockades and to provide a welfare analysis of early elections. The last section contains a discussion of our results. All proofs are in the Appendix.

## 2 A model of political blockades

Consider a country with a large number of homogeneous citizens who are infinitely lived. Periods are denoted by  $T \in \{0, 1, 2, 3, \dots\}$ . Citizens are born in  $T = 0$  either as politicians who can implement policies or as voters who are affected by policies, so that there is a large number of both types. Their common discount factor is  $\delta$ . We first consider a model in which the timing of elections is inflexible, and political decisions are taken at specific dates. Specifically, we assume that in each *second* period  $T \in \{1, 3, 5, \dots\}$ , an election is held and a political decision  $p_T \in [-2, 2]$  is taken.

### 2.1 Voters' utility

A policy  $p_T$  affects utilities of voters  $u_T$ . The way in which voters' utilities are affected depends on the state of the economy  $\omega_T$ , a random variable that is uniformly distributed over  $[-1, 1]$ . The random variables  $\omega_T$  and  $\omega_{T'}$ , for  $T' \neq T$ , are assumed to be stochastically independent.

A voter's utility from a political decision taken in period  $T$  is given by

$$u_T = -\lambda(p_T, \omega_T) = \begin{cases} 0, & \text{if } p_T = \omega_T, \\ -1, & \text{otherwise.} \end{cases}$$

In even periods, i.e., when no policy is implemented, voters have a default utility:  $u_T = 0$ .<sup>4</sup>

## 2.2 Elections

To have a policy  $p_T$  implemented, a politician must be elected at the beginning of that period. Hereafter, we refer to an elected politician as the prime minister. A legislative period has the length  $2T$ .

The maximum period that a prime minister can stay in office comprises two legislative periods, i.e. any politician can be reelected at most once.<sup>5</sup> A policy  $p_T$  is only implemented in the first half of the legislative period.

### Parties

We assume that any politician is born in  $T = 0$  as a member of one of two parties,  $L$  or  $R$ , and that elections are always between a politician from  $L$ , and a politician from  $R$ .

Parties must nominate candidates before elections. If a party does not nominate the incumbent prime minister, or if her prime minister has already been reelected once, the party's candidate is a randomly drawn party member. If the incumbent prime minister has not yet been reelected, the ruling party has to decide whether to nominate her again, or to draw another party member randomly instead. Hereafter, we refer to randomly drawn candidates as newcomers.

Parties are office-motivated. The per-period utility of party  $J$ ,  $J \in \{L, R\}$ , amounts to

$$v_{T,J} = \begin{cases} 1, & \text{if } J \text{ is ruling in } T, \\ 0, & \text{otherwise.} \end{cases}$$

Thus, when deciding whether to renominate the incumbent prime minister after her first legislative period, the ruling party chooses  $j \in \{\text{incumbent, newcomer}\}$  in order to maximize the expected present value of  $v_{T,J}$ , with expectations taken over all future uncertain events, such as realizations of  $\omega_T$ , election outcomes, policy choices, etc.

The right branch of Figure 1 below gives the timing of elections, policy implementation, and the realizations of  $\omega_T$  and  $u_T$ .

### Voting

At election date  $T$ , voters vote sincerely, in a forward looking way, i.e., at date  $T$ , a person votes for party  $L$  only if the expected present value of his utility is larger if party  $L$  wins, and votes for party  $R$  otherwise. If indifferent, the voter flips a coin.

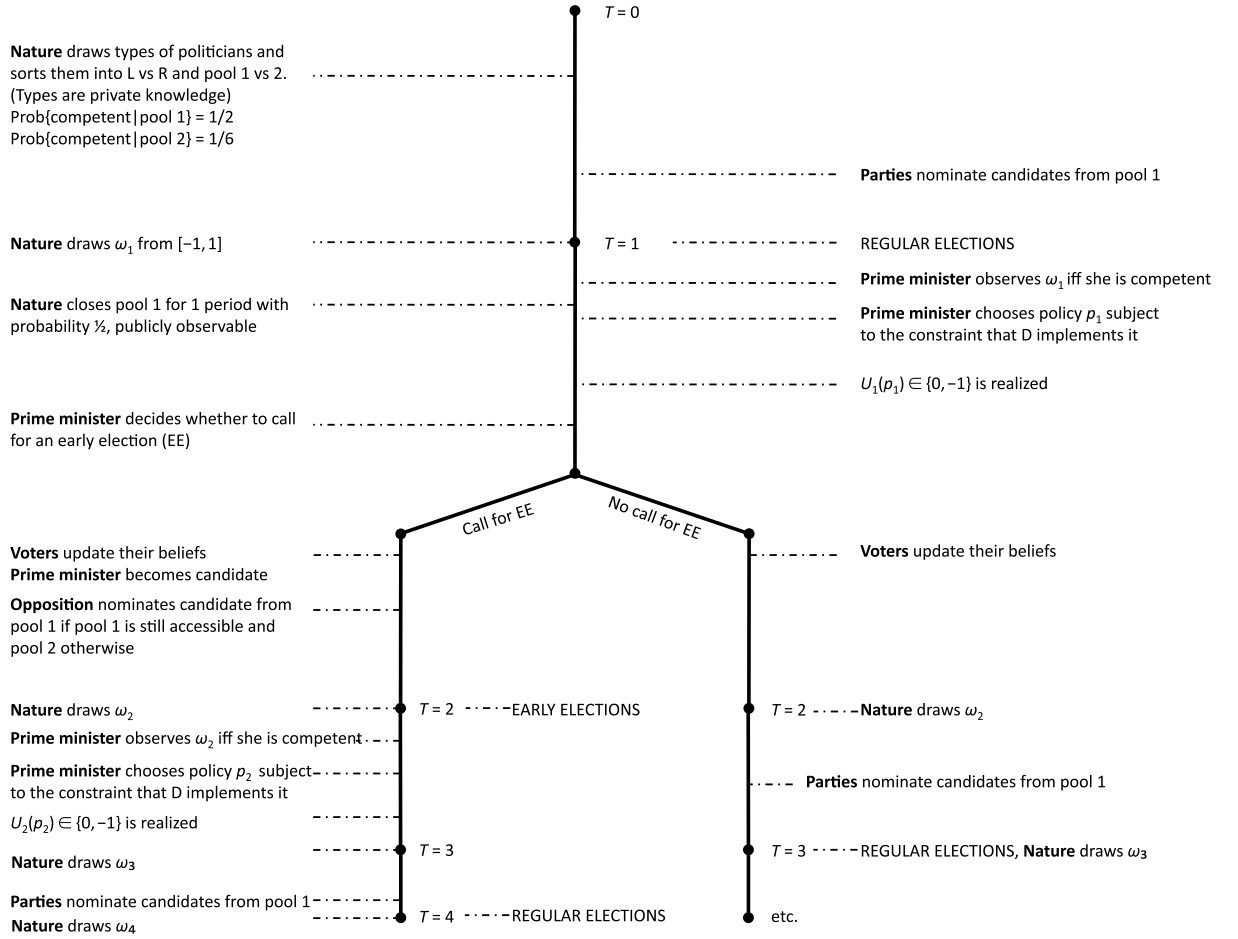
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<sup>4</sup>The utility levels 0 and  $-1$  are based on normalizations that do not carry further meaning. In the extended model in Section 4, we provide a richer description of preferences.

<sup>5</sup>The assumption that there is some upper bound on reelections is important for our results, but nothing hinges on its being equal to one.



Figure 1: Sequence of events



The right branch of this tree gives the sequence of events if there are no early elections in  $T = 2$ . The left branch gives the sequence of events if there are early elections in  $T = 2$ .

## 2.3 Types of politicians

We assume that prime ministers are not necessarily competent to implement the efficient policy  $p_T^* = \omega_T$ . Thus, we distinguish between competent and incompetent types of politicians. If a competent politician becomes prime minister she observes  $\omega_T$ , and remains uninformed otherwise. An incompetent politician does not learn  $\omega_T$ . The prior probability that a politician is competent is assumed to be equal to  $\frac{1}{2}$ . Neither politicians who are not in office nor voters can observe  $\omega_T$ .

Moreover, politicians are purely office-motivated: When they have been drawn to be a candidate for elections, their per-period-utility amounts to 1 if they are in office and to 0 otherwise.

## 2.4 Policy implementation

The prime minister's policy proposal must be approved by the ruling party's members of parliament. In the given setup, we model the interaction between the prime minister and the ruling party in reduced form.<sup>6</sup> Here, parliament is viewed as a device  $D$  that is programmed so that it

<sup>6</sup>In the extended model in section 4, we provide a rigorous microfoundation.

always approves the policy proposals of a “strong” prime minister, but approves those of a “weak” prime minister only if they conform with party ideology. More specifically, we make the following assumptions:

**Assumption 1** *In periods  $T \in \{1, 3, 5, \dots\}$ , the prime minister from party  $J \in \{L, R\}$  sends a policy suggestion  $\hat{p}_T \in [-2, 2]$  to a device  $D$ .  $D$  is programmed as follows: If the prime minister has already been reelected once, it implements  $\hat{p}_T$ . If the prime minister has not been reelected yet, but has won her first election against the former incumbent,  $D$  also implements  $\hat{p}_T$ . If the prime minister has not yet been reelected and has won her first election against another newcomer, the following holds true: If  $J = L$ ,  $D$  implements  $p_T = \hat{p}_T$  if  $\hat{p}_T \in [-2, 0]$  and  $p_T = 0$  otherwise. If  $J = R$ ,  $D$  implements  $p_T = \hat{p}_T$  if  $\hat{p}_T \in [0, 2]$  and  $p_T = 0$  otherwise.*

The interpretation is as follows: A prime minister who has already been confirmed in office twice has a stronger position in parliament than a prime minister who has been confirmed in office only once. Also, a prime minister who, as a newcomer, has won her first election against the incumbent has a stronger position in parliament than a prime minister who has won only against another newcomer. With a strong position in parliament, a prime minister from party  $L$  ( $R$ ) can implement both left-wing and right-wing policies, i.e., policies in the left *and* right half of the interval  $[-2, 2]$ . With a weak position in parliament, the prime minister from party  $L$  ( $R$ ) can only implement left-wing (right-wing) policies, i.e., policies in the interval  $[-2, 0]$  ( $[0, 2]$ ). The strength of position in parliament and the differences in implementable policies between strong and weak prime ministers will be endogenized as equilibrium outcomes in section 4.

We assume that the prime minister’s policy suggestion  $\hat{p}_T$  is not publicly observable. This assumption takes to the extreme the fact that not all bargaining procedures within the government can be observed by the public. Voters update their beliefs about the prime minister’s type after having observed the implemented policy  $p_T$  and after having realized  $u_T$ . We may therefore assume, without further loss of generality, that a prime minister chooses proposals subject to the constraint that they will be implemented by  $D$ .<sup>7</sup>

As a tie-breaking rule, we therefore impose the following assumption.

**Assumption 2** *If a prime minister is indifferent between various proposals that have the same implications for her chance of winning a future election, she will choose one that maximizes voter utility subject to being implemented by  $D$ .*

## 2.5 The game

In sum, the game is as follows:

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<sup>7</sup>That being said, if instead we assumed that policy proposals were observable, the analysis below would remain unaffected, except that our proofs would involve one additional step, namely to show that, in equilibrium, voters are unable to distinguish proposals made by competent prime ministers who cannot implement  $p_T = \omega_T$  from proposals made by incompetent ones.

1. Nature draws types in  $T = 0$ : There is a large number of voters, and there is also a large number of politicians, half of whom would be competent prime ministers and half of whom would be incompetent. A politician's type is her private knowledge. Nature sorts politicians into parties  $L$  and  $R$  and programs the device  $D$ .
2. Parties nominate their candidates at the end of periods  $T \in \{0, 2, 4, \dots\}$ . (A candidate can run in at most two consecutive elections.) If a party cannot or does not want to renominate an incumbent, it randomly draws a newcomer from among its members. Elections are held at  $T \in \{1, 3, 5, \dots\}$ . Voters vote sincerely and flip a coin if indifferent. A simple majority rule determines the winner.
3. The state of the economy,  $\omega_T$ , is drawn at the beginning of each time period. It is observed by the prime minister if and only if she is competent.
4. In odd periods, the prime minister sends a policy suggestion  $\hat{p}_T$  to the device  $D$ .  $D$  implements the policy  $p_T$  according to Assumption 1. Voters update their beliefs about the prime minister's type.
5. At the end of periods  $T + 1 \in \{2, 4, 6, \dots\}$ , parties nominate candidates for next elections. In  $T + 2 \in \{3, 5, 7, \dots\}$ , elections are held again.

## 2.6 Equilibrium analysis

We now turn to the analysis of the equilibria of the game. The solution concept is Refined Perfect Bayesian Equilibrium which requires that the strategies of the voters, parties, and the prime minister are mutually best responses for given beliefs about the prime minister's type and that beliefs are derived from Bayes' rule whenever possible. The refinement is a condition of stationarity: Equilibrium play is the same for any two subhistories of the game that differ only in calendar time.<sup>8</sup>

**Proposition 1** *There is a stationary perfect Bayesian equilibrium with the following properties:*

- *Policy Outcomes: If the prime minister is incompetent, then the outcome of her policy is  $u_T = -1$ . If the prime minister is competent, the two events  $u_T = 0$  and  $u_T = -1$  have equal probability in her first legislative period, and  $u_T = 0$  in her second legislative period.*
- *Nomination decisions: The ruling party in  $T$  nominates the prime minister for elections in  $T + 2$  only if  $u_T = 0$ , provided that the prime minister has not been reelected already. In all other cases, the party nominates a newcomer.*
- *Election Outcomes: The prime minister runs for a second term only if she has proven to be competent,  $u_T = 0$ . In this case her party wins with certainty. Otherwise, both parties nominate a newcomer, and each of them wins with probability  $\frac{1}{2}$ .*

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<sup>8</sup>Therefore, we will omit time indices when this does not create confusion.

Proposition 1 is our benchmark case of a political equilibrium with blockades. Its main feature is that a prime minister needs to prove her competence (by means of generating the good outcome  $u = 0$ ) in order to be reelected. Moreover, there are situations in which a competent prime minister is blocked in the following sense: the policy choice that would reveal her competence is not approved by parliament (i.e., by  $D$ ). Consequently, a blocked competent prime minister and an incompetent one are empirically indistinguishable from the perspective of voters. Conditional on  $u = -1$ , the probability that the prime minister is competent equals

$$\frac{\Pr(u = -1 \mid \text{comp.}) \Pr(\text{comp.})}{\Pr(u = -1 \mid \text{comp.}) \Pr(\text{comp.}) + \Pr(\text{incomp.})} = \frac{1}{3}, \quad (1)$$

which is less than  $\frac{1}{2}$ , i.e., less than the probability that a newcomer would be competent. Hence, after having realized a utility of  $-1$ , voters prefer a newcomer over the incumbent, which implies that the incumbent who has produced the bad outcome  $-1$  will not be nominated a second time by her party. Thus, both incompetent and competent but blocked prime ministers are replaced at the end of their first term in office.

### 3 Early elections

We now extend the model of the previous section and assume that a prime minister who has been elected in period  $T$  has the option to call for an early election in  $T + 1$ , rather than waiting for the next regular election in period  $T + 2$ . If an early election takes place, they do so after the utility  $u_T$  from the prime minister's first policy measure is realized. In an early election, the incumbent runs against a newcomer.

An early election affects the timing of political decision making. A prime minister's call for early elections makes her second legislative period start earlier if she becomes reelected. Since the device  $D$  is programmed such that it implements any policy suggestion of the prime minister once she has been confirmed in office twice, this means that early elections indeed make it possible to overcome a parliamentary blockade.

We impose one additional assumption to ensure that a prime minister who faces a blockade indeed has, at least occasionally, an incentive to call an early election: With positive probability, the opposition party "looks bad" in the middle of the term, so that the incumbent can foresee that she herself will win the early election.<sup>9</sup>

To capture this formally, the model is extended as follows: In  $T = 0$ , nature sorts the politicians in either party in two pools, labeled 1 and 2, respectively. A politician in pool 1 is competent with probability  $\frac{1}{2}$ , while a politician in pool 2 is competent with probability  $k < \frac{1}{2}$ . Whenever there is a *regular* election, pool 2 is shut down and pool 1 is open for both parties. Hence, any newcomer running in a regular election is competent with probability  $\frac{1}{2}$  as in the basic model. However, if there is an early election, then, with a certain probability  $\rho = \frac{1}{2}$ , pool 1 is shut down and only pool 2 remains open for the opposition party. Thus, it can happen prior to an early election that the

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<sup>9</sup>The empirical interpretation would be that an incumbent's decision whether or not to call an early election is based on publicly available poll data that document the current standing of the opposition party.

opposition party's candidate has to be drawn from the inferior pool 2. Whether pool 2 is relevant is publicly observable. For computational ease, we assume hereafter that  $k = \frac{1}{6}$ .<sup>10</sup>

This modelling choice is meant to capture an important difference between early and regular elections. Early elections, or snap elections, often come as a surprise, therefore being likely to bring with them a considerable incumbency advantage for the prime minister. The extended game, with a decision whether or not to call an early elections is depicted in Figure 1.

### 3.1 Equilibrium analysis

We have seen that without early elections, any prime minister, competent or not, who is unable to deliver the good outcome  $u = 0$  in her first term, will be replaced by a newcomer in the subsequent election. The following Proposition establishes that an incumbent prime minister will use an early election to avoid replacement whenever the opposition party is weak.

**Proposition 2** *There exists a cutoff-value  $\hat{\delta}$ , so that for all  $\delta \leq \hat{\delta}$ , there is a stationary perfect Bayesian equilibrium with the following properties:*

1. *Policy outcomes, nomination decisions prior to regular elections, and the outcomes of regular elections are as described in Proposition 1.*
2. *Early elections take place in  $T + 1$  if and only if the preceding history is as follows: In period  $T$  there is a regular election that is won by a newcomer and the policy outcome is  $u_T = -1$ . At date  $T + 1$ , the opposition party's candidate has to be drawn from pool 2.*

This equilibrium is such that both an incompetent prime minister and a competent prime minister who cannot implement  $p = \omega$  initiate early elections if the opposition party is weak. More precisely, both of them call for early elections if the opposition party must draw her candidate for early elections from the inferior pool 2. Both of them can thereby avoid being replaced by a newcomer in  $T + 2$ , gaining additional time in office until  $T + 3$ .

This works because, if early elections are initiated, voters infer that the prime minister is either incompetent or that  $D$  did not implement  $p = \omega$ . Consequently, they, once more, believe the prime minister to be competent with posterior probability of  $\frac{1}{3}$ . (The reasoning is the same as the one that led to equation (1) above.) This probability, however, is larger than  $\frac{1}{6}$ , i.e., larger than the opposition's candidate's probability of being competent. Consequently, voters reelect the prime minister.

The existence of the equilibrium in Proposition 2 requires that the discount factor  $\delta$  does not exceed a threshold level  $\hat{\delta}$ . This is due to the fact that in an early election the prime minister can run for only one additional legislative period, and the newcomer can run for two legislative periods. Hence, if both candidates were equally likely to be competent, the newcomer would be more attractive for the voters because, in case of being competent, the latter can deliver the good

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<sup>10</sup>There exists a critical value  $\hat{k}$ , such that our results go through whenever  $k \leq \hat{k}$ . A characterization of  $\hat{k}$  is straightforward, but requires lengthy derivations.

outcome  $p = \omega$  twice. If  $\delta$  is low enough, then the prime minister's competence advantage dominates this effect so that she wins in an early election.

There are other stationary perfect Bayesian equilibria than the one described in Proposition 2. In particular, the equilibrium without early elections that has been characterized in Proposition 1 survives the extension of the model. This equilibrium can be sustained by off-the-equilibrium beliefs such that, whenever the incumbent calls for an early elections, voters believe her to be incompetent with probability 1.

More importantly, however, there is no equilibrium that has political blockades and in which the use that is made of early elections distinguishes an incompetent prime minister from a competent one who cannot implement  $p = \omega$ . Formally, there is no equilibrium that is fully separating, in the sense that the action "early election" is chosen only by a competent or an incompetent type. Suppose, for instance, that only competent prime ministers call for early elections. In such an equilibrium, conditional on an early election taking place, voters would know that the prime minister is competent and reelect her. But then the incompetent type would have an incentive to mimic the competent type and also initiate an early election. Otherwise her incompetence would be revealed prior to the next regular election and she would not get a second nomination. With similar arguments, one can show that there is no equilibrium in which only an incompetent prime minister initiates early elections. We summarize this reasoning in the following Proposition, which we state without proof.

**Proposition 3** *There is no equilibrium in which early elections occur and in which the decision to initiate an early election reveals the prime minister's type.*

### 3.2 A comparison of the two equilibria

We provide a comparison of the equilibrium without early elections in Proposition 1 and the equilibrium with early elections in Proposition 2 in terms of a quantity and a quality measure.

Let  $\mathbf{1}_T^{Nc}$  be an indicator function that takes the value of 1 if, in the equilibrium without early elections, the prime minister in period  $T$  is competent. We use the expected present value  $C^N = E[\sum_{T=1}^{\infty} \delta^{T-1} \mathbf{1}_T^{Nc}]$  as a measure of competence in the equilibrium with no early elections, i.e., as a quality measure. Also, let  $\mathbf{1}_T^{Np}$  be an indicator function that takes the value of 1 if, in the equilibrium without early elections, a political decision is taken in period  $T$ . We interpret  $P^N = E[\sum_{T=1}^{\infty} \delta^{T-1} \mathbf{1}_T^{Np}]$  as a quantity measure. For the equilibrium with early elections, we define the measures  $C^E$  and  $P^E$  in an analogous way.

**Proposition 4**  $C^N > C^E$  and  $P^E > P^N$ .

The proposition establishes that the prime minister is less likely to be competent in a system with early elections. While early elections make it possible that both a competent prime minister and an incompetent prime minister gain additional time in office, the Proposition shows that this effect is more pronounced for the incompetent prime ministers. The reason is that a competent prime minister will occasionally be able to prove her competence immediately, namely in those

circumstances where  $D$  implements her suggestion  $\hat{p} = \omega$ . In this case early elections are not attractive to her because she will win the next regular election with certainty. Hence, a competent prime minister uses early elections only occasionally, namely if  $D$  does not implement  $p = \omega$ . An incompetent prime minister, by contrast, always makes use of early elections to avoid being replaced by a newcomer in the next regular election.

However, in the system with early elections more political decisions are taken. The reason is that political decisions are always taken immediately after elections are held, and that with early elections, the average time distance between two consecutive elections is strictly smaller than without.

A welfare analysis of early elections has to compare the importance of the quantity and the quality effect. In the current setting, with normalizations so that utility equals 0 if there is competent policy and  $-1$  otherwise, this exercise is not very interesting: Avoiding political decisions is the dominant concern so that voters would clearly prefer the equilibrium without early elections. We will therefore come back to this question in the context of the richer model that we introduce in the next section.

## 4 An extended model

We will now study an extended model and introduce two new elements. First, we introduce heterogeneity among voters. This makes it possible to endogenize the parliamentary blockades that were treated as exogenous in the previous sections. In particular, we will show that there are voters who benefit from political blockades and whose support is important for the parties, so that they, occasionally, have an incentive to block the prime minister's policy proposals.

Second, we model election campaigns as a source of randomness such that the outcome of an election is no longer perfectly predictable. For instance, if both parties nominate a newcomer, then there is a probability that one candidate will outperform the other in the election campaign and win with certainty. Also, we assume that voters can choose to abstain from an election. As will become clear, these extensions make our model more realistic in that there are two types of elections. On the one hand, there are elections where it is important for the parties to get enough support from the voters with extreme policy preferences. For instance, if the very leftist voters abstained and the very rightist participated in the election, then party  $R$  would win. This creates an incentive for the left party to fight for the votes of the very left. On the other hand, there are races where the focus is on the voters in the middle, and the winning party is successful in getting the support of all voters that are close to the median.

With probabilistic voting outcomes, early elections may be lost by the incumbent. As documented by Smith (2004), this happens occasionally.

### 4.1 Heterogeneity of voters

We introduce heterogeneity of voters by assuming that a voter is characterized by a type  $\theta \in [-1, 1]$ . If a political decision in period  $T$  is taken, then a voter realizes a utility of

$$u(p, \omega, \theta) = g_T - \lambda(p, \omega, \theta) .$$

The term  $g_T$  is a common value component. It is a utility gain that every voter realizes if a political decision is taken in period  $T$ .<sup>11</sup> We assume that  $g_T$  is a random variable with support  $[0, \bar{g}]$  and expected value  $g^e$ . Also, the random variables  $g_T$  and  $g_{T'}$ , for  $T' \neq T$ , are assumed to be stochastically independent.

The loss function  $\lambda(p, \omega, \theta)$  depends on the chosen policy  $p$ , the state of the economy  $\omega$ , and a voter's type  $\theta$ . It is given by

$$\lambda(p, \omega, \theta) = \begin{cases} 3\theta^2, & \text{if } p = \omega, \\ 3(\theta - p)^2 + 3(\theta - p) + 1, & \text{if } p \neq \omega \text{ and } \omega > 0, \\ 3(\theta - p)^2 - 3(\theta - p) + 1, & \text{if } p \neq \omega \text{ and } \omega < 0, \\ 3(\theta - p)^2, & \text{if } p \neq \omega \text{ and } \omega = 0. \end{cases}$$

This is a generalized quadratic loss function with the following properties: First, if voters suffer from a loss equal to  $3\theta^2$ , this indicates that the chosen policy was the one that matches the state of the world,  $p^* = \omega$ .<sup>12</sup> Second, if the policy does not match the state of the world, voters can infer from their loss whether the policy  $p^*$  would have been a leftist policy, a rightist policy, or neither a leftist nor a rightist policy.<sup>13</sup> Third, in comparison to a standard quadratic loss function (i.e., a loss function of the form  $a(\theta - p)^2 + b$ ), losses are diminished or amplified, depending on voter type and the state of the world  $\omega$ . For instance, if  $\omega < 0$  (so that the policy  $p^*$  would be leftist) and  $p = 0$  is chosen, then a voter with type  $\theta < 0$  suffers from an additional loss, whereas the loss of a voter with type  $\theta > 0$  is reduced. This property implies, for instance, that, conditional on  $\omega < 0$ , “very” rightist voters with  $\theta > \frac{1}{3}$ , prefer policy  $p = 0$  over  $p^*$ . As will become clear, this last property will imply that, in equilibrium, these voters benefit from political blockades.

**Assumption 3** *The distribution of voter types has full support. Moreover, there is a well-defined political middle that contains a majority of voters: there is  $0 < \epsilon < 1$  such that  $1 > G(\epsilon) - G(-\epsilon) > \frac{1}{2}$ .*

Assumption 3 implies that there is a fraction of voters with extreme policy preferences. In addition, there is a neighborhood of the median voter that contains a majority of voters.

We assume that the prime minister's preference has the same structure as in the basic model of the previous section, i.e., the prime minister is primarily office-motivated and has a policy motivation that breaks ties between alternatives that have the same implications for office-holding. We assume that this policy preference now coincides with the policy preference of the median voter  $\theta = 0$ . The interpretation of this assumption is that even if the prime minister has no need to please the median voter in order to increase her reelection probability, she behaves “opportunistically” in the sense of maximizing the support of her policy proposals in the general public.<sup>14</sup>

<sup>11</sup>In the basic model, this term has been normalized to zero.

<sup>12</sup>In the basic model of the previous section, this corresponds to a loss of 0.

<sup>13</sup>In the basic model, this loss was set equal to 1.

<sup>14</sup>Given that the median voter's preferred policy is a unique Condorcet winner, we can define opportunism equivalently as the objective to minimize the number of voters who prefer an alternative policy over the policy proposal of the prime minister.



## 4.2 Large and small majorities

In the following, we distinguish between two types of outcomes of an election: We say that a party gains a large majority if its vote share is strictly larger than  $\frac{1}{2}$ . If the vote share is exactly equal to  $\frac{1}{2}$  and the winner of the election is determined by a coin flip, we say that the ruling party's majority is small.

In the following we construct equilibria such that the behavior of the ruling party depends on whether its majority is large or small. In particular if, say, party  $L$  rules with a small majority, then it will block any policy proposals  $p > 0$ , i.e., such policy proposals will not pass parliament. Analogously, if party  $R$  rules with a small majority no policy  $p < 0$  will pass parliament. However, if the ruling party's majority is large, these constraints are no longer binding.

We will come back to the interpretation of these equilibria below. For now we want to emphasize that parliament in these equilibria reproduces the behavior of the exogenous device  $D$  that we used in the previous section as a reduced form model of parliament. If the prime minister has managed to gain a large majority in an election, this implies that she has a strong position vis-à-vis the parliament and can implement any policy she likes. Otherwise, her position is weak and she has to compromise with the ruling party's ideology.

For the game-theoretic analysis, the distinction between large and small majorities adds the following complication. Generally, game-theoretic treatments of voting decisions give rise to multiple equilibria. In elections with only two possible outcomes, e.g., a victory for  $L$  versus a victory for  $R$ , only one of those many equilibria survives the elimination of weakly dominated strategies. In our model, however, a voting decision now has four possible outcomes (a large majority for  $L$ , a small majority for  $L$ , a large majority for  $R$  or a small majority for  $R$ ) so that we cannot rely on the elimination of dominated strategies. We therefore impose the following assumptions on the voting behavior of individuals.

**Assumption 4** *If a large majority for one of the parties is strictly preferred by all voters with types  $\theta \in [-\epsilon, \epsilon]$ , then all of these voters vote for this party.*

This assumption says that if all voters in a neighborhood of the median prefer that one of the parties wins with a large majority, then these voters manage to coordinate their behavior in such a way that they indeed induce their preferred outcome.

**Assumption 5** *Suppose that a voter is indifferent between a large majority for  $L$  and a large majority for  $R$ . Then he votes for party  $L$  if he prefers a small majority for  $L$  over a small majority for party  $R$ , and votes for party  $R$  otherwise. In case of being indifferent, he votes for each party with probability  $\frac{1}{2}$ .*

For our equilibrium analysis below, this assumption ensures that the electorate splits at the median whenever no candidate has a competence advantage after the election campaign. In this case, all voters to the left of the median vote for  $L$  and all voters to the right of the median vote for  $R$ .

### 4.3 Probabilistic Voting

Prior to any election, there is an election campaign in which one candidate may outperform the other – in the sense that in the view of the voters she is more likely to be competent – or in which the two candidates tie. The outcome of the election campaign influences the result of an election and, in particular, whether the winning party has a large or a small majority.

Formally, we model the outcome of an election campaign as the realization of a random variable  $\beta$  which takes values in  $\{-1, 0, 1\}$  and is generated as follows:  $\beta = \alpha^L - \alpha^R$ , where  $\alpha^L$  and  $\alpha^R$  are independent random variables that take the values 0 and 1 with the following probabilities

$$\Pr(\alpha^J = 1 \mid t^J = c) = \Pr(\alpha^J = 0 \mid t^J = i) = \eta,$$

where  $t^J \in \{c, i\}$  is the type of party  $J$ 's candidate. We assume that  $\eta \in (\frac{1}{2}, 1)$ , so that a competent candidate is more likely to get a good signal,  $\alpha^J = 1$ , and an incompetent one is more likely to get a bad signal,  $\alpha^J = 0$ . Voters do not observe  $\alpha^L$  and  $\alpha^R$ . They only get a signal  $\beta$  of the relative competence of the candidates. The informational content of  $\beta$  depends on the prior beliefs of individuals on a candidate's type. For instance, if two newcomers compete, then both are *ex ante* equally likely to be of type  $c$ . If voters observe that  $\beta = 1$ , then the conditional probability that the candidate from party  $L$  is competent exceeds the conditional probability that the candidate from party  $R$  is competent. If  $\beta = 0$ , then both are equally likely to be of type  $c$ , etc.

### 4.4 Equilibrium Analysis

The extended model can be solved analytically.<sup>15</sup> However, for ease of exposition, we impose in the following the assumptions that  $k = \frac{1}{6}$ ,  $g^e = \frac{3}{4}$ ,  $\delta = \frac{1}{2}$ , and  $\eta = \frac{3}{4}$ . This allows us to use numerical methods – as opposed to lengthy algebraic manipulations of inequalities – in order to illustrate the properties of the equilibria we are analyzing.

For the same reasons as in the previous section, a constitution that enables a prime minister to initiate early elections in the middle of a legislative period gives rise to multiple equilibria. The following Proposition characterizes an equilibrium where early elections never arise. In this equilibrium, voters would interpret an early election as indicating that the prime minister must be incompetent so that the prime minister would lose with probability 1.

**Proposition 5** *Let  $g^e = \frac{3}{4}$ ,  $\delta = \frac{1}{2}$ , and  $\eta = \frac{3}{4}$ . Under Assumptions 3, 4, and 5, there is a stationary perfect Bayesian equilibrium with the following properties:*

- *Political Blockades: If Party  $L$  ( $R$ ) has a small majority, it accepts the prime minister's policy proposal if and only if  $p \leq 0$  ( $p \geq 0$ ). Otherwise it accepts any policy proposal.*
- *A prime minister never initiates early elections. Policy Outcomes and Nomination Decisions are as in Proposition 1. The implemented policy is  $p = 0$  if the prime minister is incompetent or blocked, and  $p = \omega$ , otherwise.*

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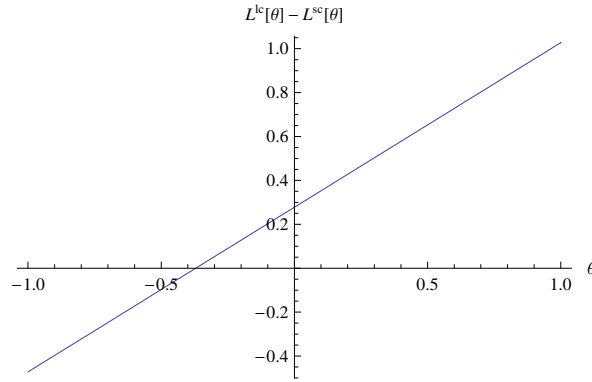
<sup>15</sup>In the Appendix, we explicitly derive all expressions that are relevant for a characterization of equilibrium.

- *Elections: The prime minister runs for a second term only if she has implemented  $p^* = \omega$ . In this case her party wins with a large majority. If both parties nominate a newcomer, then the outcome is as follows: If  $\beta = 0$ , there is a small majority for  $L$  or a small majority for  $R$ , with equal probability. If  $\beta = 1$ , party  $L$  wins with a large majority; and if  $\beta = -1$ , party  $R$  wins with a large majority.*

Proposition 5 establishes that political blockades are part of an equilibrium with heterogeneous voters. Otherwise, it establishes the same results as Proposition 1, except that there is a richer set of election outcomes: An election where both parties nominate a newcomer does not necessarily lead to a small majority for the winning party. If one candidate appears superior in the election campaign, her party will win with a large majority.

The fact that voter preferences are heterogeneous implies that there are indeed voters who benefit from a political blockade. Figure 3 shows the voter types who prefer a small majority over a large majority for party  $L$ . These voters have extreme policy preferences and hence prefer the constraint  $p \leq 0$  to be in place.

Figure 2: A large majority for  $L$  vs a small majority for  $L$



$L^{lc}(\theta)$  is the expected utility of a voter type  $\theta$  conditional on a large majority for the left party and a competent prime minister.  $L^{sc}(\theta)$  is the expected utility conditional on a small majority and a competent prime minister. In equilibrium, a small majority implies that the prime minister cannot implement policies  $p > 0$ .

Given the preferences of voters, we can explain the parties' behavior when deciding about the prime minister's policy proposals and, in particular, why small majorities give rise to political blockades. The formal proof in the Appendix uses standard folk theorem arguments to establish that the left party enforces the constraint  $p \leq 0$  whenever it has only a small majority in parliament: A deviation from  $p \leq 0$  is punished by the very leftist voters who would, in reaction to such a deviation, abstain in future elections. The right party would therefore become more likely to win. Thus, it is a best response for the leftist party not to accept any policy proposal  $p > 0$ .

The interpretation of this result is that the left party has an implicit contract with the leftist voters. If the left party came into power only because of the support of the very left and then implemented a policy that is good for the voters in the middle but bad for the very left, then the latter would no longer support the left party. In the long run, this has detrimental consequences

for party  $L$  so that it wants to honor this implicit contract.<sup>16</sup>

A similar argument can be used to show that, whenever the left party has a large majority, it seeks to move as close to the median voter's ideal policy as possible. If party  $L$  won a large majority because it got all the voters in the middle and then implemented partisan policies that would benefit only the very left, then the voters in the middle would respond to this breach of contract by switching to party  $R$  in future elections.

We now show that there is also an equilibrium that is analogous to Proposition 3. In particular, both a competent prime minister who is blocked and an incompetent prime minister call for early elections whenever the opposition party is weak.

**Proposition 6** *Let  $\delta = \frac{1}{2}$ ,  $\eta = \frac{3}{4}$ ,  $g^e = \frac{3}{4}$ , and  $k = \frac{1}{6}$ . Suppose that Assumptions 3, 4, and 5 hold. Then there is a stationary perfect Bayesian equilibrium with the following properties:*

- *Political Blockades, Policy Outcomes, Nomination Decisions, and the outcome of regular elections are as in Proposition 5.*
- *Early Elections: There are early elections in  $T + 1$  if and only if the preceding history is as follows:*
  - *In  $T$  there has been a regular election with two newcomers, which has ended with a small majority ( $\beta = 0$ ). Moreover, the opposition party's candidate had to be drawn from pool 2, and the preceding policy has been  $p = 0$ .*

*If the prime minister belongs to party  $L$  ( $R$ ), this party wins and gets a large majority if and only if  $\beta = 0$  or  $\beta = 1$  ( $\beta = -1$ ). Otherwise the opposition party wins and gets a large majority.*

Proposition 6 extends Proposition 3 to a model with heterogeneous voters and probabilistic election outcomes. In particular, the prime minister may lose in an early election. It is rational for her *ex ante* to call for an early election because she is likely to win. Ex post, however, she may regret this choice. If the candidate of the opposition party outperforms the prime minister in the election campaign, then indeed the former will win. More precisely, if the prime minister belongs to party  $L$  and the election campaign produces the signal  $\beta = -1$ , then the posterior beliefs of the voters are such that the candidate from party  $R$  is more likely to be competent.

Moreover, after an early election there is always a large majority for the ruling party. The information that is generated by the election campaign, and the history preceding the early election is such that one party's candidate has a clear advantage, in the sense of being more likely to be competent. For voters in the middle, a large majority for the party with the more competent candidate is their preferred outcome. By assumption, these voters form a large majority so that their preferred outcome prevails.

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<sup>16</sup>A related argument has been made (but not formalized) by Paul V. Warwick in his 2008 book on parliamentary democracies: "To maintain the support of these individuals [i.e., voters and party members; the authors], leaders must be able to demonstrate that their current strategy is optimal for realizing the party's policy objectives." (p. 144)

## 4.5 Welfare Analysis

We now generalize the welfare analysis that we conducted for the basic model in section 3.2. In particular, the extended model makes it possible to answer two additional questions: First, how does the preference for early elections depend on a voter's type, and second, what are plausible magnitudes for the advantages and disadvantages of early elections?

In the Appendix, we solve for the expected utility of a voter with type  $\theta$  in an equilibrium without early elections,  $\tilde{U}^N(\theta)$ , and in an equilibrium with early elections,  $\tilde{U}^E(\theta)$ , from an *ex ante* perspective. Again we can decompose these expressions into a quantity and a quality measure and write,

$$\tilde{U}^N(\theta) = \tilde{P}^N g^e - \tilde{C}^N(\theta) \text{ and } \tilde{U}^E(\theta) = \tilde{P}^E g^e - \tilde{C}^E(\theta).$$

Using numerical methods,<sup>17</sup> we show that

$$\tilde{P}^E > \tilde{P}^N \text{ and } \tilde{C}^N(\theta) > \tilde{C}^E(\theta), \text{ for all } \theta.$$

This implies that the quantity versus quality tradeoff that we derived for the basic model in Section 3.2 carries over to the extended model. Early elections lead more frequently to political decisions, but also to a lower quality of politicians.

Our answer to the question how the different voter types assess this trade-off is based on the observation that  $\tilde{C}^E(\theta) - \tilde{C}^N(\theta)$  is an increasing function of  $|\theta|$ . Hence, the quality disadvantage that is implied by early elections becomes stronger the further away a voter's type is from the median. This is a consequence of the quadratic loss term in the utility function. Large deviations from a voter's ideal policy get more weight. Since equilibrium policy is oriented towards the median, utility losses are more pronounced for voters with extreme policy preferences. More intuitively, we have seen that the very leftist and the very rightist voters benefit from political blockades. Early elections make it possible to overcome such blockades; and as a consequence, equilibrium policy is on average less attractive from the perspective of the voters with extreme preferences.

The following graph shows the utility difference  $\tilde{U}^N(\theta) - \tilde{U}^E(\theta)$  under the assumption that  $g^e = \frac{3}{4}$ . Given this value, almost every voter type, with the exception of those in a small neighborhood of the median, would prefer a constitution that precludes early elections.

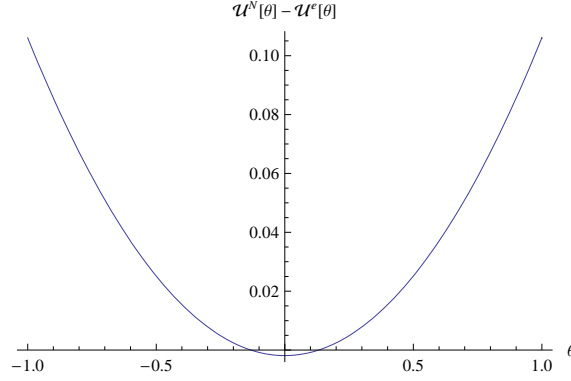
Given the specification of our model, it is reasonable to assume that  $0 \leq g^e \leq 1$ . The assumption  $g^e \geq 0$  implies that, on average, a competent political decision that maximizes the median voter's utility,  $p = \omega$ , is better for the median voter than not having a political decision. The assumption  $g^e \leq 1$  implies that, on average, an uninformed political decision,  $p = 0$ , is detrimental for the median voter in the sense of yielding a utility level that is below 0.

Moreover, the assumption that  $g^e \leq 1$  implies that the very leftist and the very rightist voters are better off in the equilibrium without early elections. We can thus conclude that one has to assume implausibly high values of  $g^e$  to arrive at the conclusion that it is in the interest of all voters to have a constitution with early elections. For the median voter, the result is not as clear-cut. Approximatively, the median voter prefers the equilibrium with early elections if  $g^e \geq \frac{3}{4}$  and prefers the equilibrium without early elections otherwise.

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<sup>17</sup>See Figure 3 below.

Figure 3: Utility without early elections vs utility with early elections



$U^N(\theta)$  is the expected utility of voter type  $\theta$  from an *ex ante* perspective in an equilibrium without early elections.  $U^E(\theta)$  is expected utility in an equilibrium with early elections. The graph is drawn under the assumption that  $g^e = \frac{3}{4}$ .

### A Remark on Time Inconsistency

The quantity versus quality trade-off above has been evaluated from an *ax ante* perspective, in the sense that the *expected* gains from having political decisions more frequently are weighted against the lower quality of political decisions.

This trade-off, however, may also be assessed from an *interim* perspective, that is, a situation where, after a regular election in period  $T$ , voters have a precise understanding of what the immediate gains  $g_{T+1}$  from a further political decision in period  $T + 1$  are.<sup>18</sup>

Suppose that there is a status quo constitution that does not allow for early elections, and that the current government has not performed very well and expects to be replaced at the next regular election. Our equilibrium analysis above has made clear that the government may have an incentive to push a constitutional reform that makes early elections possible. Moreover, if  $g_{T+1}$  is sufficiently high, then this proposal will also be popular: it is supported by voters, who feel a strong urgency to have a political decision right now, rather than after the next regular election.<sup>19</sup> This situation may arise even though, from an *ex ante* perspective, voters would be happy to tie their hands so as to have a constitution that never allows for early elections and, moreover, does not allow for future revisions of this constitutional choice.

Certainly, there will occasionally be circumstances where politicians would love to take advantage of an early election in order to gamble for additional time in office. If, at the same time, in the general public, the feeling prevails that policy measures need to be taken today rather than tomorrow, a proposal to change the constitution would find sufficient support.

<sup>18</sup>Formally, this would be a situation where the random variable  $g_{T+1}$  has been drawn and its realization has been publicly observed

<sup>19</sup>Note that these voters may perfectly foresee how the constitutional change affects political outcomes in the future, i.e., the argument does not rely on shortsightedness of voters.

## 5 Discussion

In almost all parliamentary democracies, election timing is at the discretion of the government. Early elections, or snap elections, are triggered mainly for two reasons. Either the government simply wants to capitalize on its favorable relative standing, compared to the opposition, and gain more time in office. Or it wants to overcome a blockade in parliament. In our paper, and in contrast to the existing literature, we have constructed a model in which both reasons for early elections are possible and can even be present simultaneously. We have done so by taking into account that a political blockade might also be provoked or staged by a prime minister who wants to trigger early elections simply in order to gamble for more time in office.

The focus of our analysis has been on welfare implications. We have investigated which voters benefit and which voters lose from having a constitution that allows for early elections, as opposed to one where the timing of elections is inflexible.

In the basic model, presented in section 1, we have found that in parliamentary systems with fixed election timing, competent prime ministers are too often replaced, since once a political blockade occurs, they cannot act on their own authority any more. This result, at a first glance, makes plausible the widespread intuition that the government's right to dissolve parliament is a necessary antidote to the veto right of the parliament, counterbalancing powers of the executive and the legislative branch.

To see whether the government's dissolution right does indeed fulfill this function, we have extended the basic model in section 2 to include the possibility of early elections. There, we have addressed the question whether voters can separate competent but blocked prime ministers who call for an early election to force their supposedly welfare-enhancing policy through parliament from incompetent prime ministers who call for early elections simply to gamble for more time in office. If this question had been answered affirmatively, this would have been a clear advantage of a constitution that allows for early elections. However, we have found that it is impossible for voters to discern the true motives behind an early election. Moreover, incompetent prime ministers call for early elections more often than competent prime ministers, so that the average quality of political decisions is lower in a system with flexible election timing. These results have been reproduced in the fully fleshed model presented in section 4.

Thus, if the quality of political decisions was the only issue at stake, a constitutional ban on early elections would be clearly favorable to voters. However, early elections also influence the timing of political decisions: Important political decisions are made earlier in the legislative term, when the next election campaign is still in the distant future; and consequently, more frequent elections induce a higher frequency of salient policy measures. Thus, in a system in which voters often believe that "something must be done immediately" by the government, allowing for early elections might be welfare-enhancing for at least a part of the electorate. However, as we have demonstrated in section 4, this scenario is rather unlikely to manifest itself if our model is adequate: Only a rather high and frequent urgency of political issues can offset the low average quality of political measures implemented after early elections. In general, it is more likely that voters would be better off in a parliamentary democracy that has a constitutional ban on early elections.

Thus, our negative answers to the normative question whether early elections are desirable lead

to a positive question: Why do most parliamentary democracies mandate the government with the right of calling for an early election?

At the end of section 4, we have given a tentative answer to this: Due to time-consistency problems, a constitution that bans early elections would be difficult to maintain in a parliamentary democracy. Even if voters perfectly know that in the long run, they would be better off without early elections, there will arise a situation at some point in time when voters would prefer immediate action over competent action. At this point of time, a government that fails - deliberately or not - to be supported by a majority in parliament can and will convince voters to change the constitution and have early elections.

We finally add some remarks on the empirical plausibility of our model. Our model assumes that a government is possibly blocked by parliament, and that the outcome of an election determines whether or not this is likely to happen. In particular, the election outcome determines whether or not the position of the government relative to the parliament is strong or weak.

Such an analysis does not apply to a presidential system where the position of the government is strong by constitution. For instance, one might argue that the President of the U.S., who is elected directly by the people, has a stronger position relative to the two chambers of parliament, than, say, the German Chancellor, who is elected by the members of parliament. This might well explain why the U.S. president is less able to attribute lack of political success to a lack of support in parliament. Moreover, if this is true, then our analysis suggests that there is no scope for early elections in country like the U.S. A strong government that would seek an early election, possibly via a constitutional reform, would prove itself to be incompetent, and therefore refrains from such a course of action. This reasoning might explain why early elections are widespread in parliamentary democracies, but not in presidential systems.

Most parliamentary democracies, with the exception of Great Britain, are multi-party systems in which governments typically consist of coalitions of different parties. Although we consider only single-party governments, the parties  $L$  and  $R$  in our model can also be interpreted as “fixed” coalitions, i.e., coalitions of one large and one small party that do not have or consider alternative coalition partners.

In particular, our analysis is perfectly consistent with the frequent occurrence of political conflicts within coalition governments. In our model, the fact that voters have heterogeneous preferences implies that the ruling party has to balance the policy preferences of its extreme supporters, on the one hand, and its supporters close to the median voter, on the other hand. Particularly, if the ruling party’s majority is small, it attributes its victory to the support of the extreme voters and hence can accept policy proposals only if they are sufficiently attractive to this clientele. By contrast, if, say, party  $L$  managed to gain voters to the right of the median and therefore rules with a large majority, then it has to deliver policies that appeal to the voters close to the median. A small majority in our model therefore resembles a coalition government whose stability relies on the support of an extreme party, and a large majority resembles a coalition government by several parties who are oriented towards the center.

With this interpretation of a small majority government as an ideologically diverse coalition government, and a large majority government as one that is ideologically homogeneous, we can find



empirical support for our assumption that only the former give rise to blockades and to early elections. Particularly, Warwick (2008) has shown empirically in Chapter 4 of his book that ideological diversity within the members of a government does have a negative effect on its duration.<sup>20</sup>

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<sup>20</sup>Among empiricists, the opinion has long been cherished that minimal winning governments survive longer than governments with a clear majority in parliament. Again, Warwick (2008) provides an empirical justification of our modelling. He has shown that the received opinion is false: If suitable measures of ideological diversity between government members are included as explanatory variables, the effect of the size of the majority on the duration of the government becomes insignificant.

## A Proofs for the basic model in Sections 2 and 3

### Proof of Proposition 1

The proof proceeds in two steps. We first derive an expression for the expected utility of voters in the hypothesized equilibrium (Lemma 1). Subsequently, we verify the claims made in Proposition 1 (Lemmas 2-4).

**Lemma 1** *Suppose that Proposition 1 is true. Then the expected utility,  $U^N$ , of a voter prior to an election where both parties are nominating a newcomer equals*

$$U^N = \frac{-\frac{3}{4}}{1 - \frac{3}{4}\delta^2 - \frac{1}{4}\delta^4}. \quad (2)$$

**Proof** Since both parties have an equal winning probability if they both nominate a newcomer,

$$U^N = \frac{1}{2}U^{NL} + \frac{1}{2}U^{NR} \quad (3)$$

where  $U^{NJ}$  is expected utility conditional on a victory of party  $J \in \{L, R\}$ . Since the prime minister is competent with probability  $\frac{1}{2}$ ,

$$U^{NJ} = \frac{1}{2}U^{NJc} + \frac{1}{2}U^{Nji} \quad (4)$$

where  $U^{NJt}$  is expected utility conditional on a victory of party  $j$  and prime minister type  $t \in \{c, i\}$ . Since a type  $i$  prime minister generates  $u = -1$  and is not nominated again,

$$U^{Nji} = -1 + \delta^2 U^N, \quad (5)$$

for each  $J$ .

Now suppose that the prime minister is competent. Then with probability  $\frac{1}{2}$  he generates  $u = 0$  in his first period, is reelected and produces the same outcome also in the next period. Otherwise, the outcome is  $u = -1$  in the first period, and the subsequent election is one with two newcomers. Hence, for each  $J$ ,

$$U^{NJc} = \frac{1}{2}(-1 + \delta^2 U^N) + \frac{1}{2}\delta^4 U^N \quad (6)$$

Equations (3)-(6) imply equation (2). ■

**Lemma 2** *Suppose that the ruling party nominates the prime minister for a second election only if she previously generated the outcome  $u = 0$ . Then, if the prime minister is competent and in her last period, the policy outcome is  $u = 0$ . If the prime minister is competent and in her first period, the outcome is  $u = 0$  if and only if  $D$  implements  $p = \omega$ . In all other cases, the outcome is  $u = -1$ .*

**Proof** An incompetent prime minister cannot condition on the current value of  $\omega$ , and hence

always delivers  $u = -1$ . Now consider a competent prime minister. Suppose she is in her last term, so that she no longer has career concerns and, moreover, can implement all policies. Consequently, she chooses  $p = \omega$  and  $u = 0$ . If she is in her first term, she can ensure a second nomination only if she is competent and the device  $D$  implements  $p = \omega$ . She will hence pick  $p = \omega$ , whenever  $D$  implements it. ■

**Lemma 3** *Suppose a candidate has already proven to be competent and competes against a newcomer. Then the competent candidate is nominated by her party and wins with certainty.*

**Proof** If the competent candidate wins, this yields an expected utility of  $\delta^2 U^N$  for the voters. If the newcomer wins, he will be able to implement any policy he likes. Consequently, the outcome is  $u = -1$  if the newcomer is competent, and the newcomer's part will not nominate her a second time. Otherwise the outcome is  $u = 0$  and she will be renominated. The voters' expected utility if the newcomer wins equals

$$\frac{1}{2}(-1 + \delta^2 U^N) + \frac{1}{2}\delta^4 U^N$$

It is straightforward to show that this expression is smaller than  $\delta^2 U^N$ , for all  $\delta \in (0, 1)$ . Hence, the incumbent wins so that the incumbent's party prefers to renominate the incumbent over nominating a newcomer who would only win with probability  $\frac{1}{2}$ . ■

**Lemma 4** *A party nominates a newcomer if the previous outcome was  $u = 0$ .*

**Proof** Suppose the incumbent can be nominated again, and that the previous outcome was  $u = 0$ . By Bayes' rule, the probability that an incumbent who has generated the outcome  $u = 0$  is competent is given by

$$\frac{\Pr(u = -1 \mid \text{comp.}) \Pr(\text{comp.})}{\Pr(u = -1 \mid \text{comp.}) \Pr(\text{comp.}) + \Pr(\text{incomp.})} = \frac{1}{3},$$

If the incumbent is reelected the expected utility equals  $-\frac{2}{3} + \delta^2 U^N$ . This is smaller than the expected utility with a newcomer  $\frac{1}{2}(-1 + \delta^2 U^N) + \frac{1}{2}\delta^4 U^N$ . ■

## Proof of Proposition 2

The proof proceeds in two steps. We first derive an expression for the expected utility of voters in the hypothesized equilibrium (Lemma 5). Subsequently, we verify the claims made in Proposition 2.

**Lemma 5** *Suppose that Proposition 2 is true. The expected utility,  $U^E$ , of a voter in an equilibrium*

with early elections prior to an election where both parties are nominating a newcomer equals

$$U^E = -\frac{\left(\frac{3}{4} + \frac{1}{4}\delta\right)}{1 - \frac{3}{8}\delta^2 - \frac{3}{8}\delta^3 - \frac{1}{4}\delta^4}. \quad (7)$$

**Proof** Since both parties have an equal winning probability if they both nominate a newcomer,

$$U^E = \frac{1}{2}U^{EL} + \frac{1}{2}U^{ER} \quad (8)$$

where  $U^{EJ}$  is expected utility conditional on a victory of party  $J \in \{L, R\}$ . Since the prime minister is competent with probability  $\frac{1}{2}$ ,

$$U^{EJ} = \frac{1}{2}U^{EJc} + \frac{1}{2}U^{EJi} \quad (9)$$

where  $U^{EJt}$  is expected utility conditional on a victory of party  $J$  and prime minister type  $t \in \{c, i\}$ . A type  $i$  prime minister generates  $u = -1$  and initiates early elections whenever the opposition party's candidate has to be drawn from pool 2. Otherwise she stays in office until  $T + 2$ , where she is not nominated again,

$$U^{EJi} = -1 + \frac{1}{2}\delta^2 U^E + \frac{1}{2}(-\delta + \delta^3 U^E), \quad (10)$$

for each  $J$ .

If the prime minister is competent, she can generate  $u = 0$  with probability  $\frac{1}{2}$ . In this case she will be nominated again and win with certainty. Otherwise, the outcome is  $u = -1$ , and there is an early election with probability  $\frac{1}{2}$ . Hence,

$$U^{EJc} = \frac{1}{2}\delta^4 U^E + \frac{1}{2}\left(-1 + \frac{1}{2}\delta^2 U^E + \frac{1}{2}\delta^3 U^E\right). \quad (11)$$

Equations (8)-(11) imply equation (7). ■

**Lemma 6** *Given the behavior of voters in early and regular elections and the nomination decision of parties, in any period where a political decision is taken, the policy outcome is  $u = 0$  if the prime minister is competent and  $D$  implements  $p = \omega$ , and  $u = -1$  otherwise.*

**Proof** If the prime minister is competent and in her second period, this follows because she seeks to maximize the voters' utility, and  $D$  implements  $p = \omega$ . If she is incompetent and in her second period,  $u = -1$  follows because the prime minister cannot condition her policy proposal on  $\omega$ .

Now suppose she is in her first period. If she is competent and  $D$  implements  $p = \omega$ , proposing  $p = \omega$  implies that she will be nominated again and reach the maximum time in office because her type will be revealed prior to the next regular election.

Now suppose she is incompetent or  $D$  does not implement  $p = \omega$ . In this case the outcome  $u = -1$  results necessarily. ■

**Lemma 7** *Consider a regular election in  $T + 2$  where the prime minister can be nominated for a second term. It is optimal to nominate the prime minister if and only if  $u_T = 0$ .*

**Proof** If  $u_T = 0$ , then it has been revealed that the prime minister is competent. If she is nominated her party wins with certainty. The argument is as follows. The voters expected payoff if the incumbent wins equals  $\delta^2 U^E$ . If the newcomer wins against the incumbent,  $D$  implements any policy proposal. Hence, if the newcomer is competent he will be able to prove it and he will be elected one more time, at the next regular election. Otherwise incompetence is proven (the outcome  $u = -1$  can be attributed only to a lack of competence if  $D$  implements any policy proposal) and he will be replaced at the next regular election. The expected payoff from a newcomer therefore equals  $\frac{1}{2}(-1 + \delta^2 U^E) + \frac{1}{2}\delta^4 U^E$ . It is straightforward to verify that this expression is smaller than  $\delta^2 U^E$ .

If  $u_T = -1$ , then the arguments from the Proof of Proposition 1 imply that the incumbent is competent with probability  $\frac{1}{3}$ . The expected utility if the incumbent wins is thus  $-\frac{2}{3} + \delta^2 U^E$ , which is smaller than the payoff if the newcomer wins. ■

**Lemma 8** *A prime minister who is in first period, competent and able to implement  $p = \omega$  does not initiate early elections. Suppose  $\delta < \frac{2}{3}$ . Then, a prime minister who is unable to implement  $p = \omega$  chooses early elections if and only if the opposition party's candidate has to be drawn from pool 2.*

**Proof** If the prime minister is competent she can reach the maximum time in office if and only if she proposes  $p = \omega$  in her first period and does not initiate early elections.

In the following, consider a prime minister who is unable to implement  $p = \omega$ . In the hypothesized equilibrium, Bayes' rule implies that conditional on the events "early elections take place" the probability that the prime minister is competent equals  $\frac{1}{3}$ .

Suppose first that the incumbent competes against a newcomer from the opposition party who is drawn from pool 2 and is hence competent with probability  $k$ . Hence voters get an expected payoff of  $-\frac{2}{3} + \delta^2 U^E$  if the incumbent wins.

If the newcomer wins they get  $\gamma \delta^4 U^E + (1 - \gamma)(-1 + \delta^2 U^E)$ , where  $\gamma = \frac{1}{2}$  if the newcomer is drawn from pool 1 and  $\gamma = k$  if the newcomer is drawn from pool 2.

It is straightforward to verify that  $\gamma = \frac{1}{2}$  implies that voters prefer the newcomer. Hence, in this case the incumbent prefers not to have an early election. Thereby she remains in office until  $T + 2$ , rather than being replaced in  $T + 1$ .

For  $\gamma = k$ , voters prefer that the incumbent wins if and only if

$$k < \frac{1}{3(1 - (\delta^2 - \delta^4)U^E)}$$

Obviously, for  $\delta$  sufficiently large, this inequality is satisfied for  $k = \frac{1}{6}$ . Hence, the incumbent prefers to have an early election. Thereby she remains in office until  $T + 3$ , rather than being replaced in  $T + 2$ . ■

## Proof of Proposition 4

The derivation of  $C^N$ , and  $P^N$  follows from the same line of reasoning as the derivation of  $U^N$  in Lemma 1 and yields the following expressions:

$$C^N = \frac{1 + \delta + \frac{1}{4}(\delta^2 + \delta^3)}{1 - \frac{3}{4}\delta^2 - \frac{1}{4}\delta^4} \quad \text{and} \quad P^N = \frac{1}{1 - \delta^2}.$$

The derivation of  $C^E$ , and  $P^E$  parallels the derivation of  $U^E$  in Lemma 5:

$$C^E = \frac{1 + \delta + \frac{1}{4}(\delta^2 + \delta^3) + \frac{3}{8}\delta^2}{1 - \frac{3}{8}\delta^2 - \frac{3}{8}\delta^3 - \frac{1}{4}\delta^4} \quad \text{and} \quad P^E = \frac{1 + \frac{3}{8}\delta + \frac{1}{4}\delta^2}{1 - \frac{3}{8}\delta^2 - \frac{3}{8}\delta^3 - \frac{1}{4}\delta^4}.$$

It is now straightforward to verify that  $C^N > C^E$ , and  $P^E > P^N$ .

## B Proofs for the extended model in Section 4

### Proof of Proposition 5

The proof proceeds in three steps. We first compute the utility of voters in the hypothesized equilibrium (Lemma 9). For the second step, we take it as given that political blockades occur and show that the prime minister's policy proposals, the party's nomination decisions and the behavior of voters are mutually best responses (Lemmas 10 - 12). In the final step, we endogenize the political blockade (Lemmas 13 and 14).

**Lemma 9** *Suppose that Proposition 5 is true. The expected utility,  $\tilde{U}^N(\theta)$ , of voter type  $\theta$  prior to an election where both parties are nominating a newcomer and prior to learning the next period's  $g$  equals*

$$\tilde{U}^N(\theta) = \frac{(g^e - 3\theta^2)(1 + \frac{1}{2}\delta^2) - \frac{1}{2}}{1 - \frac{1}{2}\delta^4 - \frac{1}{2}\delta^2}. \quad (12)$$

**Proof** We first compute the continuation utility  $\tilde{U}^N(\theta)$  of a voter with type  $\theta$  prior to an election campaign (i.e., before observing  $\beta$ ) where both parties nominate a newcomer and prior to observing the next period's realization of  $g$ .

Suppose that both parties compete with a newcomer. We will verify below that  $\beta = 1$  ( $\beta = -1$ ) implies that party  $L$  ( $R$ ) wins with a large majority and that  $\beta = 0$  implies that either party wins with probability  $\frac{1}{2}$  and has only a small majority in case of winning. It is straightforward to verify that all of these events occur with equal probability. Hence,

$$\tilde{U}^N(\theta) = \frac{1}{4}[L^l(\theta) + L^s(\theta) + R^s(\theta) + R^l(\theta)] \quad (13)$$

where  $L^l(\theta)$  is the continuation utility if party  $L$  wins with a large majority and  $L^s(\theta)$  is the continuation utility that applies if the majority is small.  $R^l(\theta)$  and  $R^s(\theta)$  are defined in the same way.

The payoff given that party  $L$  wins with a large majority is based on expectations about the prime minister's type conditional on the event  $\beta = 1$ ,

$$\begin{aligned} L^l(\theta) &= \Pr(t^L = c \mid \beta = 1)L^{lc}(\theta) + \Pr(t^L = i \mid \beta = 1)L^{li}(\theta) \\ &= \eta L^{lc}(\theta) + (1 - \eta)L^{li}(\theta) . \end{aligned} \quad (14)$$

$L^{lc}(\theta)$  ( $L^{li}(\theta)$ ) is the expected continuation utility conditional on the events  $\beta = 1$  and  $t^L = c$  ( $t^L = i$ ). In the hypothesized equilibrium, a competent prime minister stays in office for two periods because in case of having a large majority she can reveal her type during her first term with probability 1, by implementing the policy  $p = \omega$ . This implies

$$L^{lc}(\theta) = (1 + \delta^2)(g^e - 3\theta^2) + \delta^4 \tilde{U}^N(\theta) . \quad (15)$$

By contrast, an incompetent politician stays in office for only one period, and the implemented policy is  $p = 0$ . Since his type becomes common knowledge the party nominates a newcomer in the next regular election. This implies

$$L^{li}(\theta) = (g^e - 3\theta^2 - 1) + \delta^2 \tilde{U}^N(\theta) , \quad (16)$$

where  $3\theta^2 + 1 = E[\lambda(p, \omega, \theta) \mid p = 0, p \neq \omega]$ .

If party  $L$  wins with a small majority, then, the continuation utility  $L^s(\theta)$  is given by

$$\begin{aligned} L^s(\theta) &= \Pr(t^L = c \mid \beta = 0)L^{sc}(\theta) + \Pr(t^L = i \mid \beta = 0)L^{si}(\theta) \\ &= \frac{1}{2}L^{sc}(\theta) + \frac{1}{2}L^{si}(\theta) , \end{aligned} \quad (17)$$

where  $L^{si}(\theta) = L^{li}(\theta)$  because the behavior of an incompetent politician does not depend on the size of the majority. By contrast, a competent politician can choose  $p = \omega$  if  $\omega \leq 0$  and has to choose  $p = 0$  otherwise. Hence,

$$\begin{aligned} L^{sc}(\theta) &= \Pr(\omega \leq 0)L_{nb}^{sc}(\theta) + \Pr(\omega > 0)L_b^{sc}(\theta) \\ &= \frac{1}{2}L^{lc}(\theta) + \frac{1}{2}L_b^{sc}(\theta) , \end{aligned} \quad (18)$$

where  $L_b^{sc}(\theta)$  is the continuation utility that applies if the president is blocked. In an equilibrium without early elections,

$$L_b^{sc}(\theta) = (g^e - 3\theta^2 - 3\theta - 1) + \delta^2 \tilde{U}^N(\theta) . \quad (19)$$

where  $3\theta^2 + 3\theta + 1 = E[\lambda(p, \omega, \theta) \mid p = 0, \omega > 0]$ .

Likewise, one can derive the corresponding expressions for  $R^s(\theta)$  and  $R^l(\theta)$ . Substituting the resulting formulas into (13) and using the assumption  $\eta = \frac{3}{4}$  yields equation (12). ■

Taking the political blockades as given, it follows from Lemma 2 that the policy outcome in any period is  $p^* = \omega$  if the prime minister is competent and if there is no blockade, and  $p = 0$  otherwise.

**Lemma 10** Consider a regular election where two newcomers are running. Party  $L$  ( $R$ ) wins with a large majority if and only if  $\beta = 1$  ( $\beta = -1$ ). If  $\beta = 0$ , then the winning party has a small majority, and each party wins with probability  $\frac{1}{2}$ .

**Proof**

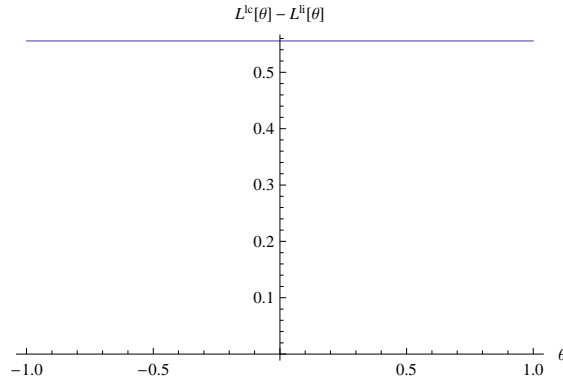
*Case 1.* Suppose the election campaign ends with a signal in favor of the left candidate  $\beta = 1$ . We show in the following that, conditional on this event, for a majority of voters a large majority for party  $L$  is the preferred outcome of the election.

*Step 1.* Consider first the comparison between a large majority for party  $L$  and a large majority for party  $R$ . Given the posterior beliefs, the expected utility if  $L$  wins a large majority is given by  $L^l(\theta)$  whereas the expected utility if party  $R$  wins a large majority is given by

$$(1 - \eta)R^{lc}(\theta) + \eta R^{Li}(\theta) ,$$

where the symmetry of equilibria implies that  $R^{lc}(\theta) = L^{lc}(\theta)$  and  $L^{li}(\theta) = R^{li}(\theta)$ , for all  $\theta$ . Hence, a voter of type  $\theta$  prefers a large majority for  $L$  over a large majority for  $R$  if and only if  $L^{lc}(\theta) - L^{li}(\theta) > 0$ . The following graph shows that this statement is true for all  $\theta$ . Hence, all voters prefer a large majority for the more competent candidate over a large majority for the less competent candidate.

Figure 4: A large majority for  $L$  vs a large majority for  $R$  following  $\beta = 1$



*Step 2.* We now investigate the set of voters who prefer a large majority for party  $L$  over a small majority for party  $L$ . The expected utility if party  $L$  wins a small majority is given by

$$\eta L^{sc}(\theta) + (1 - \eta)L^{si}(\theta) ,$$

where in an equilibrium without early elections  $L^{si} = L^{li}$ . Hence, a voter of type  $\theta$  prefers a large majority for  $L$  over a small majority for  $L$  if and only if  $L^{lc}(\theta) - L^{sc}(\theta) > 0$ . Figure 2 shows that this statement is true for all  $\theta \geq -0.37$ ; that is, only the voters whose ideal policy is very left benefit from a blockade.

*Step 3.* By symmetry, all voters with types  $\theta \leq 0.37$  prefer a large majority for party  $R$  over a



small majority for party  $R$ . By *Step 1* all voters prefer a large majority for  $L$  over a large majority for  $R$ . Hence, we can conclude that all voters with types  $\theta \leq 0.41$  prefer a large majority for party  $L$  over a small majority for party  $R$ .

We conclude from *Steps 1 - 3* that all voters with types between  $-0.37$  and  $0.37$  prefer a large majority for party  $L$  over any alternative outcome of the election. Assumption 3 implies that this is a majority of voters. Assumption 4 implies that these voters vote for party  $L$ .

*Case 2.* A symmetric argument establishes that party  $R$  will win with a large majority if the election campaign ends with a signal in favor of the right candidate,  $\beta = -1$ .

*Case 3.* Suppose that  $\beta = 0$ . Then, the posterior beliefs of the voters are such that both candidates are equally likely to be competent. Moreover, both parties behave identically in case of winning a large majority, implying that all voters are indifferent between a large majority for  $L$  and large majority for  $R$ . Consequently, a voter of type  $\theta$  prefers a small majority for party  $L$  over a small majority for party  $R$  if and only if  $L^s(\theta) \geq R^s(\theta)$ . A straightforward calculation shows that these are all voters with an ideal policy to the left of the median, i.e., all voters with  $\theta < 0$ . ■

We now show that an incumbent who had the opportunity to prove that he is competent in the previous period will win with a large majority if he runs again.

**Lemma 11** *Suppose an incumbent has proven to be of type  $c$ . If nominated again, she will win with a large majority.*

**Proof** Consider an election where an incumbent from party  $R$  who has proven to be of type  $c$  and runs again. If she is reelected with a large majority, a type  $\theta$  voter realizes utility  $OC^l(\theta) := (g - 3\theta^2) + \delta^2 \tilde{U}^N(\theta)$ .

If the candidate from the left party has a good signal,  $\beta = 1$ , then the expected payoff from a large majority for party  $L$  equals  $YG^l(\theta) := \eta L^{lc}(\theta) + (1 - \eta) L^{li}(\theta)$ . Since  $L^{lc}(\theta) > L^{li}(\theta)$  this is an upper bound for the expected payoff that is realized if  $L$  gains a large majority.

The following graph shows that  $OC^l(\theta) > YG^l(\theta)$ , for all  $\theta$ . Hence, all voters prefer a large majority for the incumbent over a large majority for the newcomer, whatever the outcome of the election campaign.<sup>21</sup>

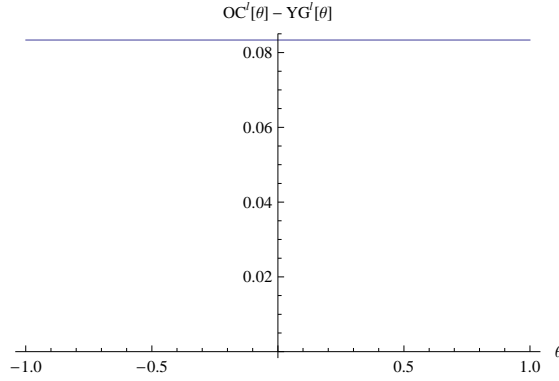
The set of voters who prefer a large majority for the incumbent over a small majority for the incumbent is given by the voters such that  $(g - 3\theta^2) + \delta^2 \tilde{U}^N(\theta) > \frac{1}{2}((g - 3\theta^2) + \delta^2 \tilde{U}^N(\theta)) + \frac{1}{2}((g - 3\theta^2 + 3\theta - 1) + \delta^2 U^N(\theta))$ . Straightforward computations show that these are the voters with  $\theta < \frac{1}{3}$ .

We can use the arguments from Lemma 10 to argue that all voters with  $\theta > -0.37$  prefer a large majority for the incumbent over a small majority for the left party. In summary, all voters with

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<sup>21</sup>The inequality  $OC^l(\theta) > YG^l(\theta)$  can be manipulated analytically to obtain an upper bound on  $\eta$ . If  $\eta$  was very close to 1 then the new candidate would be almost as likely to be of type  $c$  as the incumbent. Moreover, the new candidate has the advantage of being able to run in two consecutive elections. Hence, for  $\eta$  very close to one  $OC^l(\theta) > YG^l(\theta)$  does not hold. By contrast, assuming that  $\eta = \frac{3}{4}$  implies that a competent incumbent will always win against a newcomer.

Figure 5: A large majority for a competent incumbent vs. a large majority for a new candidate with a good signal



types between  $-0.37$  and  $0.33$  prefer a large majority for the incumbent over any other outcome. By assumptions 3 and 4 this implies that the incumbent wins with a large majority. ■

Now suppose that the policy outcome has been  $p = 0$ . From the perspective of voters this indicates that either there has been a blockade – conditional on this event the prime minister is competent with probability  $\frac{1}{2}$  – or there has not been a blockade and prime minister is incompetent with probability 1. The arguments in the proof of Lemma 4 imply that in this situation all voters with preferences in a neighborhood of the median would prefer a large majority for the newcomer over any other outcome if the prime minister was nominated again, which implies that the prime minister’s party prefers to nominate a newcomer. This is summarized in the following Lemma, which we state without proof.

**Lemma 12** *Suppose an incumbent has implemented  $p = 0$ . If nominated, the other candidate will win with a large majority.*

We now turn to the incentives of parties to enact political blockades. Without loss of generality, we study only the incentives for the left party. We first derive the left party’s payoffs in equilibrium. Prior to an election campaign with two newcomers, the left party’s payoff  $V_L$  is given by

$$V_L = \frac{1}{4}(S_L^{Ll} + S_L^{Ls} + S_L^{Rl} + S_L^{Rs}), \quad (20)$$

where  $S_L^{Ll}$  is the expected payoff of party  $L$  conditional on winning a large majority in a regular election where two newcomers are running.  $S_L^{Ls}$  is the expected payoff in case of winning a small majority.  $S_L^{Rl}$  and  $S_L^{Rs}$  are the payoffs of the left party if the right party wins. We have that

$$\begin{aligned} S_L^{Ll} &= \eta(1 + \delta + \delta^2 + \delta^3 + \delta^4 V_L) + (1 - \eta)(1 + \delta + \delta^2 V_L) \\ S_L^{Ls} &= \frac{1}{2}(1 + \delta + \delta^2 + \delta^3 + \delta^4 V_L) + \frac{1}{2}(1 + \delta + \delta^2 V_L) \\ S_L^{Rl} &= \eta\delta^4 V_L + (1 - \eta)\delta^2 V_L \end{aligned}$$

$$S_L^{Rl} = \frac{1}{2}\delta^4 V_L + \frac{1}{2}\delta^2 V_L .$$

Substituting these expressions into (20) yields

$$V_L = \frac{1 + \delta + \frac{1}{2}(\eta + \frac{1}{2})(\delta^2 + \delta^3)}{2 - (\eta + \frac{1}{2})\delta^4 - (\frac{3}{2} - \eta)\delta^2} , \quad (21)$$

It is now straightforward to verify that

$$V_L = \frac{1}{2} \frac{1}{1 - \delta} . \quad (22)$$

Intuitively, this is the present value of an infinite stream of expected per period payoffs of  $\frac{1}{2}$ , where  $\frac{1}{2}$  the probability to be in office in any one period.

**Lemma 13** *Suppose  $L$  has a small majority. It is optimal for the party to block any policy  $p \geq 0$  if it expects that otherwise leftist voters would abstain in the future whenever there is an election where both parties nominate a newcomer and  $\beta = 0$ .*

**Proof** Suppose there is an alternative equilibrium where leftist voters abstain whenever  $\beta = 0$  and, as a consequence, party  $R$  gains a large majority whenever  $\beta = 0$ . In all other cases voting behavior is unaffected. In this alternative equilibrium the left party's payoff  $V_{LA}$  is given by

$$V_{LA} = \frac{1}{4}(S_{LA}^{Ll} + S_{LA}^{Ls} + S_{LA}^{Rl} + S_{LA}^{Rs}) , \quad (23)$$

where

$$\begin{aligned} S_{LA}^{Ll} &= \eta(1 + \delta + \delta^2 + \delta^3 + \delta^4 V_{LA}) + (1 - \eta)(1 + \delta + \delta^2 V_{LA}) \\ S_{LA}^{Ls} &= \frac{1}{2}\delta^4 V_{LA} + \frac{1}{2}\delta^2 V_{LA} \\ S_{LA}^{Rl} &= \eta\delta^4 V_{LA} + (1 - \eta)\delta^2 V_{LA} \\ S_{LA}^{Rs} &= \frac{1}{2}\delta^4 V_{LA} + \frac{1}{2}\delta^2 V_{LA} . \end{aligned}$$

Substituting these expressions into (23) yields

$$V_{LA} = \frac{\frac{1}{2}(1 + \delta) + \frac{1}{2}\eta(\delta^2 + \delta^3)}{2 - (\eta + \frac{1}{2})\delta^4 - (\frac{3}{2} - \eta)\delta^2} , \quad (24)$$

Assuming that a deviation affects future play of leftist voters, the maximal utility that the left party can obtain by deviating from blocking any policy  $p \geq 0$  is given by

$$1 + \delta + \delta^2 + \delta^3 V_{LA} .$$

This is based on the assumption that the party can win the next regular election by deviating. Thereafter, the party has to nominate a newcomer and from then on the new equilibrium payoff becomes relevant. By contrast, if the party honors its implicit contract with leftist voters, then the payoff is given by

$$1 + \delta V_L .$$

Straightforward calculations show that for  $\eta = \frac{3}{4}$  and for  $\delta = \frac{1}{2}$  we have that

$$1 + \delta V_L > 1 + \delta + \delta^2 + \delta^3 V_{AL} .$$

This implies that the left party has no incentive to deviate. ■

Using the same argument, one can show that it is not in the party's interest to deviate from moving as close as possible to the median voter's preferred policy. Suppose that the party and the prime minister would consider a deviation such that in one period a policy that is optimal for voters with types to the left of the median is implemented. If this implies that in future elections all voters in a neighborhood of the median vote for party  $R$  whenever the race is close, such a deviation is not attractive.

**Lemma 14** *Consider a deviation of party  $L$  that yields a short run gain for leftist voters. If this implies that in the future voters in the middle vote for party  $R$  whenever there is an election where both parties nominate a newcomer and  $\beta = 0$ , then such a deviation is not attractive.*

## Proof of Proposition 6

The proof proceeds in three steps. We first consider the incentives for a prime minister to call for early elections. Lemma 15 shows that after the early election campaign, voters may consider the opposition party's candidate to be more competent. Lemma 16 shows that the prime minister may want to call an early election even if the opposition party will exactly in those circumstances where the newcomer outperforms the incumbent in the early election campaign. Second, we derive voter utility in the hypothesized equilibrium (Lemma 17). Finally, we explain the steps that are required to verify that the hypothesized behavior constitutes indeed a stationary perfect Bayesian equilibrium.

**Lemma 15** *Let the history of events be as follows: Consider an early election with campaign outcome  $\beta'$  that takes place after voters have observed  $p = 0$ , an opposition party's candidate who has been drawn from pool 2, and a preceding regular election with two newcomers who tied in the election campaign,  $\beta = 0$ . Suppose the prime minister belongs to party  $L$ . If  $\frac{1}{3} > k > \frac{(1-\eta)^2}{(1-\eta)^2 + 2\eta^2}$ , then  $\Pr(t^L = c \mid \beta') > \Pr(t^R = c \mid \beta')$  if  $\beta = 1$  or  $\beta = 0$ , and  $\Pr(t^L = c \mid \beta') < \Pr(t^R = c \mid \beta')$ , if  $\beta = -1$ .*

**Proof** The probability that the prime minister is competent equals  $\frac{1}{3}$ , as in the basic model in Section 3.

*Case 1.* Suppose that  $\beta' = 0$ . By definition of a conditional probability

$$\Pr(t^L = c \mid \beta' = 0) = \frac{\frac{1}{3}\Pr(\beta' = 0 \mid t^L = c)}{\frac{1}{3}\Pr(\beta' = 0 \mid t^L = c) + \frac{2}{3}\Pr(\beta' = 0 \mid t^L = i)} . \quad (25)$$

The assumption that  $\alpha_L$  and  $\alpha_R$  are independent random variables implies that

$$\Pr(\beta' = 0 \mid t^L = c) = \eta[k\eta + (1-k)(1-\eta)] + (1-\eta)[k(1-\eta) + (1-k)\eta] , \quad (26)$$

and

$$\Pr(\beta' = 0 \mid t^L = i) = (1-\eta)[k\eta + (1-k)(1-\eta)] + \eta[k(1-\eta) + (1-k)\eta] . \quad (27)$$

Combining equations (25) - (27) yields

$$\Pr(t^L = c \mid \beta' = 0) = \frac{\frac{1}{3}\{2\eta(1-\eta) + k(2\eta-1)^2\}}{-\frac{1}{3}k(2\eta-1)^2 + \frac{2}{3}\{(1-\eta)^2 + \eta(1-\eta) + \eta^2\}} . \quad (28)$$

In a similar way we derive

$$\Pr(t^R = c \mid \beta' = 0) = \frac{k[\frac{1}{3}\{\eta^2 + (1-\eta)^2\} + \frac{2}{3}\{2\eta(1-\eta)\}]}{-\frac{1}{3}k(2\eta-1)^2 + \frac{2}{3}\{(1-\eta)^2 + \eta(1-\eta) + \eta^2\}} . \quad (29)$$

It follows from equations (29) and (28) that

$$\Pr(t^L = c \mid \beta' = 0) > \Pr(t^N = c \mid \beta' = 0) \iff k < \frac{1}{3} .$$

*Case 2.* Suppose that  $\beta' = 1$ . Using the same arguments as in *Case 1*, we derive

$$\Pr(t^L = c \mid \beta' = 1) = \frac{\eta}{2-\eta} . \quad (30)$$

and

$$\Pr(t^N = c \mid \beta' = 1) = \frac{k[\frac{1}{3}\eta(1-\eta) + \frac{2}{3}(1-\eta)^2]}{\frac{1}{3}(2-\eta)\{k(1-\eta) + (1-k)\eta\}} \quad (31)$$

It follows that,

$$\Pr(t^L = c \mid \beta' = 1) > \Pr(t^N = c \mid \beta' = 1) \iff k < \frac{\eta^2}{2+3\eta^2-4\eta} .$$

With  $\eta = \frac{3}{4}$ ,  $\frac{\eta^2}{2+3\eta^2-4\eta} > \frac{1}{6}$ . It follows that  $\Pr(t^L = c \mid \beta' = 1) > \Pr(t^N = c \mid \beta' = 1)$ .

*Case 3.* Suppose that  $\beta' = -1$ . Using the same arguments as *Case 1*, we derive

$$\Pr(t^L = c \mid \beta' = -1) = \frac{1-\eta}{1+\eta} . \quad (32)$$

and

$$\Pr(t^N = c \mid \beta' = -1) = \frac{k[\frac{1}{3}\eta(1-\eta) + \frac{2}{3}\eta^2]}{\frac{1}{3}(1+\eta)\{k\eta + (1-k)(1-\eta)\eta\}} \quad (33)$$

It follows that,

$$\Pr(t^L = c \mid \beta^{EE} = -1, EE, k) < \Pr(t^N = c \mid \beta^{EE} = -1, EE, k)$$

$$\iff k > \frac{(1-\eta)^2}{(1-\eta)^2 + 2\eta^2}$$

■

**Lemma 16** *Suppose the prime minister belongs to party L. Suppose there is a blockade or that the prime minister is incompetent. Suppose that the opposition party's candidate is drawn from pool 2, and that the preceding regular election in period T had  $\beta = 0$ . Suppose that the prime minister would not be nominated again if there was a regular election in  $T + 2$ . Suppose that the prime minister will win an early election if and only if  $\beta \neq -1$ . Let  $(1 + \delta)(1 - k\eta^2 - (1 - k)\eta(1 - \eta)) > 1$ , then it is optimal both for a competent and an incompetent prime minister to call for an early election.*

**Proof** If the prime minister does not initiate early elections, her payoff as of period  $T + 1$  equals 1 because she can stay in office until  $T + 2$ . If she wins an early election her expected payoff equals  $(1 + \delta)\Pr(\beta' \neq -1 \mid t^L)$  because in case of winning she stays in office until  $T + 3$  and loses her office otherwise. Suppose first that  $t^L = i$ . Then,

$$\begin{aligned} \Pr(\beta' = -1 \mid t^L = i) &= k\Pr(\beta' = -1 \mid t^R = c, t^L = i) \\ &\quad + (1 - k)\Pr(\beta' = -1 \mid t^R = i, t^L = i) \\ &= k\eta^2 + (1 - k)\eta(1 - \eta) \end{aligned}$$

Hence, an incompetent prime minister calls for early elections if

$$(1 + \delta)(1 - k\eta^2 - (1 - k)\eta(1 - \eta)) > 1.$$

Now suppose that the prime minister is competent, then

$$\Pr(\beta' = -1 \mid t^L = c) = k\eta(1 - \eta) + (1 - k)(1 - \eta)^2$$

which is strictly smaller than  $\Pr(\beta' = -1 \mid t^L = i)$ . Hence a competent prime minister also opts for early elections. ■

**Lemma 17** *Suppose Proposition 6 is true. Then, the expected utility,  $\tilde{U}^E(\theta)$ , of voter type  $\theta$  prior to an election where both parties are nominating a newcomer and prior to learning the next period's  $g$  equals*

$$\tilde{U}^E(\theta) = \frac{q(g^e - 3\theta^2) - r}{1 - u}, \quad (34)$$

where

$$q := 1 + \frac{3}{8}\rho\delta + \left(\frac{1}{8} + \frac{1}{2}\eta\right)\delta^2 + \frac{1}{4}\rho\left(\frac{1}{2}\sigma^c + \sigma^i\right)\delta^3,$$

$$\begin{aligned}
r &:= \left( \frac{3}{8} + \frac{1}{2}(1 - \eta) \right) + \frac{1}{4} \left( \alpha^i + \gamma^i + \frac{1}{2}\gamma^c \right) \rho \delta, \\
u &:= \left( \frac{3}{8}(1 - \rho) + \frac{1}{2}(1 - \eta) \right) \delta^2 + \rho \left( \frac{1}{8}(\alpha^c + \gamma^c) + \frac{1}{4}(\alpha^i + \gamma^i) \right) \delta^3 \\
&\quad + \left( \frac{1}{8} + \frac{1}{2}\eta \right) \delta^4 + \rho \left( \frac{1}{8}\sigma^c + \frac{1}{4}\sigma^i \right) \delta^5.
\end{aligned}$$

and

$$\alpha^c := \Pr(\beta' = -1 \mid t^L = c) = 1 - k\eta(1 - \eta) - (1 - k)(1 - \eta)^2,$$

is the probability that a competent incumbent wins an early election and

$$\alpha^i := \Pr(\beta' = -1 \mid t^L = i) = 1 - k\eta^2 - (1 - k)\eta(1 - \eta),$$

is the probability that an incompetent incumbent wins. We denote by

$$\sigma^c := \Pr(\beta' = -1, t^R = c \mid t^L = c) = k\Pr(\beta' = -1, \mid t^R = c, t^L = c) = k\eta(1 - \eta),$$

the joint probability that the incumbent loses and that the newcomer is competent given that the incumbent is competent, and by

$$\sigma^i := k\eta^2,$$

the joint probability that the incumbent loses and that the newcomer is competent given that the incumbent is not competent. Analogously, the joint probability that the incumbent loses and that the newcomer is incompetent is given by

$$\gamma^c := (1 - \eta)^2(1 - k),$$

if the incumbent is competent and by

$$\gamma^i := \eta(1 - \eta)(1 - k),$$

if the incumbent is incompetent. Finally  $\rho = \frac{1}{2}$  is the probability that the opposition party's candidate has to be drawn from pool 2.

**Proof** An election where both nominate a newcomer leads to a large majority for party  $L$  ( $R$ ) if  $\beta = 1$  ( $\beta = -1$ ) which happens with probability  $\frac{1}{4}$ . Conditional on  $\beta = 0$  either party has an equal chance of winning with a small majority. Hence,

$$\tilde{U}^E(\theta) = \frac{1}{4}[\bar{L}^l(\theta) + \bar{L}^s(\theta) + \bar{R}^s(\theta) + \bar{R}^l(\theta)], \quad (35)$$

where  $\bar{L}^l(\theta)$  is the continuation utility if party  $L$  wins with a large majority and  $\bar{L}^s(\theta)$  is the continuation utility that applies if the majority is small, etc.

In case of winning with a large majority, there is no political blockade. Hence,

$$\bar{L}^l(\theta) = \eta\bar{L}^{lc}(\theta) + (1 - \eta)\bar{L}^{li}(\theta), \quad (36)$$

where

$$\bar{L}^{lc}(\theta) = (1 + \delta^2)(g^e - 3\theta^2) + \delta^4 \tilde{U}^E(\theta), \quad (37)$$

and

$$\bar{L}^{li}(\theta) = (g^e - 3\theta^2 - 1) + \delta^2 \tilde{U}^E(\theta), \quad (38)$$

Again, by symmetry  $\bar{L}^l(\theta) = \bar{R}^l(\theta)$ .

If party  $L$  wins with a small majority, then, the continuation utility  $\bar{L}^s(\theta)$  is given by

$$\bar{L}^s(\theta) = \frac{1}{2} \bar{L}^{sc}(\theta) + \frac{1}{2} \bar{L}^{si}(\theta), \quad (39)$$

where

$$\bar{L}^{sc}(\theta) = \frac{1}{2} \bar{L}_{nb}^{sc}(\theta) + \frac{1}{2} \bar{L}_b^{sc}(\theta), \quad (40)$$

and  $\bar{L}_{nb}^{sc}$  is the continuation utility that applies if  $\omega \leq 0$  and there is no blockade, and  $\bar{L}_b^{sc}$  is the continuation utility that applies otherwise. If there is no blockade, a competent prime minister can prove his competence which implies that

$$\bar{L}_{nb}^{sc}(\theta) = \bar{L}^{lc}(\theta) \quad (41)$$

With probability  $1 - \rho$  there is no early election but a regular election where both parties nominate a newcomer. Hence,

$$\bar{L}_b^{sc}(\theta) = (g^e - 3\theta^2 - 3\theta - 1) + (1 - \rho)\delta^2 \tilde{U}^E(\theta) + \rho X^c(\theta), \quad (42)$$

where

$$X^c(\theta) := \alpha^c[\delta(g^e - 3\theta^2) + \delta^3 \tilde{U}^E(\theta)] + \sigma^c \delta \bar{R}^{lc}(\theta) + \gamma^c \delta \bar{R}^{li}(\theta)$$

Analogously, we derive

$$\bar{L}^{si}(\theta) = (g^e - 3\theta^2 - 1) + (1 - \rho)\delta^2 \tilde{U}^E(\theta) + \rho X^i(\theta) \quad (43)$$

where

$$X^i := \alpha^i[\delta(g^e - 3\theta^2 - 1) + \delta^3 \tilde{U}^E(\theta)] + \sigma^i \delta \bar{R}^{lc}(\theta) + \gamma^i \delta \bar{R}^{li}(\theta)$$

The expressions for party  $R$  are derived in the same way. Substituting all the resulting expressions into (35) establishes the Lemma. ■

The remaining steps to complete the proof of Proposition 6 are similar to those for the proof of Proposition 5. We therefore only sketch the arguments.<sup>22</sup> We first verify that Lemma 10 also holds

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<sup>22</sup>Details are available from the authors upon request.



in the current setting. The arguments and the results are exactly the same as in the proof of Lemma 10. We further verify that an early election is indeed such that the incumbent wins with a large majority if  $\beta \neq -1$  and that the opposition party wins with a large majority otherwise. Therefore it is necessary to use the appropriate posterior beliefs on candidate competence when computing expected utility conditional on the outcome of the early election campaign and to adjust for the fact that the incumbent has a shorter time horizon than the newcomer. Given these modifications, the arguments and the results which characterize the outcome of early elections are same as in the proof of Lemma 10. Finally, we show that also Lemmas 11-14 go through.